ENV

# UK Environmental Health Action Plan:

# Public Consultation Draft

Department of the Environment
Department of Health

DC


22501858308

**UNITED KINGDOM ENVIRONMENT AND HEALTH ACTION PLAN**

**FOREWORD**

The Second European Conference on Environment and Health was organised by the European Regional Office of the World Health Organisation and held in Helsinki in June 1994. It was attended by Health and Environment Ministers of 50 countries.

The Conference agreed an Environment and Health Action Plan for Europe (EHAPE), a principle feature of which was that environment and health Departments in individual countries would jointly prepare their own, national, Action Plans by the end of 1997. It was subsequently agreed to set up a small group of countries, representative of the European regions, which would act as a pilot - preparing their Action Plans ahead of the timetable agreed in Helsinki so as to test the feasibility of the approach and enable their experience to assist other countries in their own planning. We were delighted to accept WHOEuro's invitation to be a member of this pilot group (the other countries involved are Bulgaria, Hungary, Italy, Latvia and Uzbekistan). The Action Plans will provide a key focus for the Third European Conference, to be held in London in June 1999.

The UK's Action Plan builds upon, and relates more closely to its public health implications, the existing programme of work set out in the Environment White Papers ('This Common Inheritance') and the Sustainable Development Strategy. It also links closely to the environmental aspects of public health promotion identified in the health strategy document 'The Health of the Nation'.

The format of the Action Plan is determined by that of the EHAPE. The six pilot countries have agreed to undertake their task in this way so as to provide a consistent approach which will better enable difficulties in the concept to be identified and will serve as a clearer guide to assist other countries considering their own action plans.

The Departments of Environment and Health are working closely together, with colleagues in the Northern Ireland Ofice, the Scottish Office, the Welsh Office and other Departments, and we are pleased to present the Action Plan, in draft form, for public consultation and comment. We hope that publication of the draft will enable a wide range of those interested in environmental and public health, to contribute to the consultation process and to the setting of the UK priorities which will result.

Stephen Dorrell
Secretary of State for Health

John Gummer
Secretary of State for the Environment

1 August 1995

INFORMATION SERVICE
-2 NOV 1995
Wellcome Centre for Medical Science

**Comments should be sent, *no later than 27 October 1995*, to**

***either:***
**Zeph Wekesa, Toxic Substances Division, Room A3.24, Department of the Environment, Romney House, 43 Marsham Street, London, SW1 3PY**

***or* :**
**Zubeda Seedat, Health Aspects of Environment and Food Division, Room 679D, Department of Health, Skipton House, 80 London Road, London, SE1 6LW**

**Please note that comments submitted will be made available for public scrutiny *unless* they are expressly identified as to be treated as confidential.**

# THE UNITED KINGDOM ENVIRONMENT AND HEALTH ACTION PLAN

Foreword by Secretaries of State for Environment and for Health

CONTENTS


BACKGROUND TO THIS REPORT 1

THE REPORT

1 INSTITUTIONAL FRAMEWORK 111

2. ENVIRONMENTAL HEALTH MANAGEMENT TOOLS
2.1 Environment and health information systems 211
2.2 Assessment of health-related environmental hazards 221
2.3 Control measures 231
2.4 Economic and fiscal instruments 241
2.5 Environmental health services 251
2.6 Professional training and education 261
2.7 Public information and health education 271
2.8 Research and technological development 281

3. SPECIFIC ENVIRONMENTAL HAZARDS
3.1 Water 311
3.2 Air 321
3.3 Food 331
3.4 Solid wastes and soil pollution 341
3.5 Ionising and non-ionising radiation 351
3.6 Natural disasters and industrial and nuclear accidents 361

4. LIVING AND WORKING ENVIRONMENTS
4.1 Urban and rural settlements 411
4.2 Occupational health and safety 421

5. ECONOMIC SECTORS
5.0 Introduction 511
5.1 Industry 511
5.2 Energy 521
5.3 Transport 531
5.4 Agriculture 541
5.5 Tourism 551

6. INTERNATIONAL ACTION 601
6.1 Introduction
6.2 Priority areas
6.3 Implementation mechanisms

7. OVERVIEW OF UNITED KINGDOM PLAN 701
[No text at present: for possible development after public consultation]

ANNEXES
1. Abbreviations and glossary
2. References: General
EC Directives
3. Health for All targets
4. The UK process
5. Responsibility for environmental health
6. Housing fitness standards and housing condition

## BACKGROUND TO THE REPORT

### Historical background

1. Since the Stockholm Conference on the Human Environment in 1972 there has been growing national and international concern with the environment and health and, more recently, with environmental health. The concern is witnessed by the work of international organisations and the response of governments.

2. In 1984, the Member States of WHO in the European Region set themselves 38 targets to be met by the year 2000 as part of the health for all (HFA) strategy. Then, the First European Conference on Environment and Health was held in Frankfurt in 1989: it unanimously approved the European Charter on Environment and Health, which extends the European HFA strategy in its relation to the environment. The HFA targets, as updated in 1991[1] [Ref 38], include eight environmental health targets which, with the target on accidents, express the long-term policy objectives for Europe. The nine relevant targets are set out in Annex 3.

3. The proximate trigger for a document in the specific form of this one was the Second European Conference on Environment and Health, organised by the World Health Organisation Regional Office for Europe (WHO/EURO) in collaboration with the European Community and held in Helsinki in June 1994.

4. For the Helsinki Conference, WHO/EURO prepared a draft *Environmental Health Action Plan for Europe*[Ref 27] (EHAPE), which has since been finalised and published: the EHAPE set out how a Europe-wide plan would be prepared. The draft was subject to substantial review and comment by member states during its drafting before being endorsed at the Conference.

5. At the Helsinki Conference, the United Kingdom (UK) was represented by the Secretary of State for the Environment and the Minister for Health. The *Declaration*[Ref 15] issued by the Ministers of member states and by others attending the conference said

> "We endorse the Environmental Health Action Plan for Europe (EHAPE) as the means through which we may protect and promote health and conserve and improve the environment. We are committed to implementing its major thrusts, as follows:
>
> "We commit our respective health and environment departments to developing jointly, not later than 1997, action plans on health and the environment, working with and through competent authorities or inviting them to draw up such action plans where appropriate and legally or constitutionally required. These plans should be integrated in or closely linked with both environmental action programmes and with health planning processes, and specifically the action plans required by the UNCED follow-up and the Environment for Europe process. We will intensify cooperation with other

---

[1] References are listed in alphabetical order of title in Annex 2.

governmental authorities, such as those responsible for agriculture, energy, industry, transport and tourism, in order to integrate environmental and health issues into their existing policies, as an important step towards sustainability."

## Integrated policies

6. An action plan for environmental health, and its component parts, cannot stand alone. Its component parts must be integrated, one with another, into a coherent whole; and that whole must be related to, and integrated with, plans to meet other needs of the community: eg employment and leisure; economy and development. This must be a multi-disciplinary effort. Widespread consultation is needed, across Government, industry and the community at all levels, to ensure that the action plan reflects and addresses the most pressing concerns and that it commands commitment to its implementation.

7. In particular, a national environmental health action plan (NEHAP) must take account of preexisting separate plans for environment and health, such as the *Sustainable Development - The UK Strategy, Cm 2426*[Ref 65] and *The Health of the Nation - A Strategy for Health in England*[Ref 39], and of how such plans fit in with international initiatives.

## The pilot project

8. In view of the importance attached by Europe's Ministers at Helsinki to the development of NEHAPs, WHO/EURO decided to start a pilot project as a priority international action in support of the efforts of member states to develop NEHAPs. The pilot project is intended to obtain practical experience in the making of such plans and to disseminate the lessons learned to other countries which will be completing their NEHAPs by the end of 1997. Six pilot countries were invited by WHO/EURO, chosen to have a geographic spread and a range of economic circumstances. The UK was one of the six invited and Ministers agreed that the UK should participate. The other pilot countries are Bulgaria, Hungary, Italy, Latvia and Uzbekistan. The pilot countries all agreed to make the necessary commitment of resources to complete their NEHAPs by mid 1996 and to cooperate with each other with a view to achieving a successful outcome.

9. As a pilot country, the UK's NEHAP (the UKEHAP) not only sets out the plan itself but also describes in Annex 4 the intra-governmental and administrative process. This description is included at the request of WHO/EURO to assist particularly the countries of Central and Eastern Europe and the newly independent states (CCEE/NIS) which have had less experience of inter-departmental projects and public consultation in planning than has the UK.

10. At their first meeting, held in Budapest in January 1995, the pilot countries agreed that the pilot project would be most useful to other countries if the pilot countries' plans followed the format set out in the EHAPE[Ref 27] as closely as possible. A

second meeting was held in Copenhagen in June 1995 to discuss progress; further meetings are planned for 1995 and 1996.

**Format of the plans**

11. The EHAPE (Volume 2, Action in Countries)[Ref 27] distinguishes three levels of action which would prioritise the options considered for a NEHAP:

> "Group 1 actions concern the basic requirements for environmental health. They aim at preventing or mitigating conditions whose environmental causes are well established and can give rise to widespread and often acute health effects. The conditions would worsen with time if not brought under control. Control may yield immediate benefits, roughly in proportion to the magnitude of the investment, that will be easily recognized by the proportion to the magnitude of the investment, that will be easily recognizable by the public. In addition, most such control measures are technically feasible at reasonable costs.
>
> "Group 2 actions concern the prevention and control of medium- and long-term environmental health hazards. Causal relationships may be more difficult to establish at existing environmental concentrations, but the potential for adverse effects on health is recognized. They include long-term effects from both chronic and shorter-term exposures; some of these may be irreversible effects, associated, for example, with increased cancer risks. The benefits of the action may only appear after many years, although when the actions lead to rapid and marked reductions of air and water pollution, their value will be rapidly appreciated by the public.
>
> "Group 3 actions concern the promotion of human wellbeing and mental health rather than the prevention of disease. Perception of the environment as unpleasant imposes stress on the affected population. Different factors may be perceived as unpleasant by different groups of people, and so considerable expense could be entailed in attempting to satisfy everybody. Thus, even more than with Group 2 actions, priority-setting is crucial here to ensure that most effective investment of resources. Since such priority-setting will involve considerations of public perception, public education and information are essential if the limited funds available are to be invested appropriately. Public willingness to pay is also relevant. On the other hand, a good environment can enhance the quality of life. Environmental planning can support the formation of local social networks. Involvement of communities in planning and maintaining their surroundings will increase awareness of the long-term benefits for health and wellbeing of measures to protect the environment."

The UKEHAP classifies levels of action using these same groups.

12. Commenting on these groups, the EHAPE[Ref 27] says

> "Common to all groups is the consideration that, because some environmental improvements may be expensive and their impact on health uncertain or difficult to quantify, countries need to consider carefully how far they can afford each element, having regard to its cost and likely yield in terms of gain to health or wellbeing."

13. The EHAPE, Volume 2[Ref 27], divided the matter to be considered in NEHAPs into five principal chapters and further subdivided those chapters into sections. The UKEHAP's Chapters 1 to 5 and their sections correspond exactly with those in the corresponding chapters in the EHAPE. The link between the international section of the EHAPE and Chapter 6 of the UKEHAP is explained there.

14. The EHAPE dealt with each section under three headings:

Basis for action;

Objectives; and

Actions for consideration.

The UKEHAP closely follows that format. For each section, the objectives set out in the EHAPE are broadly accepted by the UK and are repeated at the head of each section, under "Objectives", to avoid the need to refer to the EHAPE. Under the heading "Basis for action", the current position in the UK is described. A slight variation has been introduced by replacing "Actions for consideration" by, simply, "Actions". This is because the EHAPE was written to cover the diverse circumstances that obtain across Europe and to act as an indicative menu, in the knowledge that each country would have its own priorities. For the UKEHAP, proposed actions are simply recorded under the appropriate Group number as described in para 11 above.

**Setting priorities**

15. An essential prerequisite to determining, and committing a country to actions is to identify:

- actual or potential hazards to health in the environment

- the impacts on health which those hazards may cause;

- the degree of priority with which each should be addressed.

16. First thinking on planning for action on environmental hazards will need to focus on identification and recognition of the hazards and their associated risks to public health. This may be a relatively simple process reflecting well-established scientific evidence from other areas or other countries. In such cases prioritisation will take that evidence and build upon it, reflecting national and more local circumstances, the extent and severity of adverse health effects, and the resources which can be made available to reduce or remove the hazard. Where environmental conditions present a serious hazard to public health (whether in terms of the number of people affected or of the severity of the effect), ideally the objective must be to remove the hazard completely; but in some cases this will not be possible - either at all or at least in the short-term - and the priority will be to focus attention on reducing the risks and

planning, over a reasonable period of time, to remove them where this is technically possible.

17. As action plans are developed, implemented and rolled forward, priority-setting becomes an iterative process; environmental conditions and public health states are monitored; as changes occur, and scientific understanding is gained and developed, priorities will change and be updated to reflect the impact of earlier actions and the need to address other, or new, risks.

# 1 INSTITUTIONAL FRAMEWORK

**Objectives** (EHAPE para 68)

* To ensure, through the establishment of appropriate government machinery, that decisions and long-term strategic planning affecting the natural environment, and through it health, are taken not merely on the basis of economic factors alone but also with full consideration of potential environmental health consequences, in accordance with the requirements of sustainable development.

* Similarly, to ensure that decisions on economic development at local level are taken in full knowledge of their environmental implications and potential consequences for health, through effective consultation involving not only local authorities and those who stand to benefit financially from the proposed development but also the population that will be affected by the positive or negative outcomes of the decision.

## Basis for action

1. In 1970, the Royal Commission on Environmental Pollution (RCEP) was established. It is an independent standing body which advises on environmental issues in accordance with the following terms of reference:

> To advise on matters, both national and international, concerning the pollution of the environment; on the adequacy of research in this field; and the future possibilities of danger to the environment.

2. The RCEP has freedom to consider and advise on any matter it chooses: the Government may also request the RCEP to consider particular topics. It has published reports on a wide variety of environmental topics, most of them relevant to environmental health: for instance, in 1994, the RCEP completed a major study on transport and the and is currently working on a study of soil.

3. Sustainable development which aims to reconcile economic development and environmental protection is essential for the long term protection of health. If the "green message" is to be promoted effectively, there must be commitment to it across Government. Accordingly, the UK has taken a number of steps to achieve both coordination of policy and full consultation:

* The long tradition of collective Cabinet responsibility means that the UK has well-established methods for ensuring coordination of policy across Government. These have recently been enhanced to ensure effective consideration of sustainable development policy. Annual environment White Papers are presented to Parliament; these are agreed by all Government Departments and now describe progress in meeting the UK's sustainable development commitments. The process offers a powerful tool to encourage all of Government to keep up to the mark.

* Environmental policy is integrated into the work of all Government Departments in a number of other ways. A

Cabinet Committee on the Environment provides a forum for collective consideration of key environmental issues. The UK requires any policy proposals going before Cabinet to be accompanied by an assessment of environmental costs and benefits where these are significant. The UK has set up consultative committees with industry, local government and the voluntary sector and has appointed a "Green Minister", and below that a network of "green contacts", in each Government Department to ensure that its policies and management team have environmental concerns built into them. Local government is carrying forward its own programme of work on sustainable development through its "Local Agenda 21" initiative.

* all Departments are required to ensure that papers submitted to Cabinet and Ministerial Committees should, where appropriate, cover any significant costs or benefits to the environment;

* each Government Department has nominated its own "Green Minister" whose job it is to ensure that environmental considerations are integrated into the strategy and policies of his or her own department and they are supported by a network of "green contacts" at official level across all Departments to develop best practice and coordinate policy;

* each Government Department now includes in its own Annual Report material on that Department's environmental performance; and

* all Government Departments now have strategies in place for good environmental housekeeping.

4. The UK sustainable development strategy, published in January 1994, recognised that much of the early UK environmental legislation was motivated by a concern to protect human health - to curb air pollution, provide clean water and minimise risks from waste disposal. Pollution now rarely causes acute health incidents in the UK. Consequently, public concern today tends to centre on health issues where it is harder to identify the strength of linkages between cause and effect.

5. The UK was one of the first countries to publish a sustainable development strategy to follow up the Rio Earth Summit, to reconcile the fundamental aspirations for continuing economic development to secure higher standards of living now and for future generations and the protection and enhancement of the environment today and in the future. The Government has always recognised that the task of achieving sustainable development involves the whole country - central and local government, business, other organisations and individuals. Ultimately it requires a response by every member of society, by millions of individuals making choices about their lifestyles.

6. Wide consultation was at the heart of the production of the sustainable development strategy. A seminar for 100 key

representatives at Oxford University led to a public consultation paper which drew more than 500 responses. The UK held discussion groups with different sectors over several months and a major British newspaper ran a series of articles on sustainable development culminating in a questionnaire about people's attitudes which drew more than 8000 responses.

7. Consultation remains vital to the continuing implementation of the strategy. As well as existing machinery, such as public consultation on planning issues, Parliamentary Select Committees and the RCEP, the UK has set up new mechanisms. Five very eminent specialists were appointed by the Prime Minister to a Government Panel on Sustainable Development to advise and monitor progress; a new UK Round Table on Sustainable Development of 35 representatives of various sectors and groups is reviewing the issues to consider how to achieve greater consensus across society about how to tackle them; a new campaign "Going for Green" is working with existing promotional groups to get the message of sustainable development across to individuals in their private lives. In Scotland, the Secretary of State has established an Advisory Group to address the distinct challenges and implications for Scotland in tackling sustainable development and to provide independent advice to Scottish Ministers on the issues.

## Actions

8. The UK intends to keep the machinery described above in place as necessary or to set up new mechanisms so as to continue to progress its sustainable development policies effectively at national and local level.

## 2. ENVIRONMENTAL HEALTH MANAGEMENT TOOLS

### 2.1 ENVIRONMENT AND HEALTH INFORMATION SYSTEMS

Objectives (EHAPE para 79)

* To improve the relevance, quality and availability of data on various aspects of the environment related to health (e.g. pollutant levels in air, water, soil, food, body fluids and tissues) for purposes of situation, trend and impact analysis, as required for national environmental policy development and evaluation, as well as for research purposes.

* For the same purposes as above, to improve the value of mortality and morbidity data by making them accessible at suitably low levels of geographic aggregation and by facilitating the possibility of relating them to environmental and other external factors (e.g. occupation, lifestyle) that may contribute to mortality, morbidity or both.

* To develop country-specific environmental health profiles as the basis for defining priorities for action and for monitoring progress.

Basis for action

1. Air quality is monitored by networks of automated and non-automated sites throughout the country. Concentrations of pollutants such as nitrogen oxides, carbon monoxide, sulphur dioxide, particulates, hydrocarbons and lead are measured and the results set in the context of WHO guideline standards. Ground level ozone is similarly monitored and the results reported against guidelines set by WHO and the UK's Expert Panel on Air Quality (EPAQS). EPAQS provides independent advice to the Secretary of State for the Environment on air quality standards, taking account of the best available evidence of the effects of air pollution on human health and the wider environment. It is made up of medical and scientific experts in the field of air pollution effects and air pollution science. Benzene and 1.3 butadiene are also measured against EPAQS recommendations.

2. All the data referred to in the previous paragraph are published in the annual *Digest of Environmental Statistics*[Ref 17] (The *Digest*). Bulletins on air quality based on data on ambient $SO_2$, $NO_2$, $O_3$, benzene and 1,3 butadiene concentrations are also available to the public every day (Free telephone line 0800-556677; CEEFAX page 404; Teletext page 106.) and the criteria for classification of air quality take into account EC standards and independent advice from the Committee on Medical Aspects of Air Pollution Episodes as well as WHO guidelines.

3. Water quality is also monitored throughout the country and reported by the Department of the Environment (DOE) in the *Digest*. Drinking water quality is measured against a prescribed concentration or value for a range of parameters, including coliforms, metals and pesticides, and annual results are published[Ref 18] by DOE and by the Scottish Office (SO)[Ref 19] and

reported in summary tables in the *Digest*. The quality of waters for fish is monitored under the EC's Freshwater Fish Directive by the National Rivers Authority (NRA) in England and Wales, and by the River Purification Authorities (RPA) in Scotland. The *Digest* reports the overall compliance level against the mandatory requirements set for the physical and chemical parameters.

4. Results of the sampling of bathing waters for physical, chemical and microbiological parameters for the EC Bathing Water Directive[Ref 98] are held on a database by DOE and published annually by the NRA, by DOE in a Report to Parliament and in the *Digest* and reported also to the EC. The *Digest* not only gives detailed results for the latest year but also makes some comparisons with previous years to show trends.

5. The *Digest* has data for Wales and the Welsh Office (WO) also publishes an annual *Environment Digest for Wales*[Ref 26] providing environmental statistics.

6. The Government's food surveillance programme covers the whole food chain from raw materials through manufacture and processing to subsequent storage and distribution of the food. Eleven Working Parties organise a wide range of food surveillance activities and related research in areas ranging from nutrients to inorganic contaminants in food. Their surveillance programmes are coordinated so as to contribute to MAFF's aim of ensuring a safe, nutritious and authentic food supply. Data on the nature, level and incidence of contaminants in foodstuffs form the basis for advice to Government and recommendations for action as necessary.

7. The concentrations of contaminants such as mercury, copper, dieldrin and polychlorinated biphenyls (PCBs) measured in fish and shellfish off the coast of the UK are collected by the Directorate of Fisheries Research of the Ministry of Agriculture, Fisheries and Food (MAFF) and published in their Monitoring Reports[Ref 3] and also summarised in the *Digest*.

8. Results from the pesticides and radionuclides programme are published annually. For the other programmes, completed surveys are announced monthly in the Food Safety Directorate Information Bulletin and an explanatory note on each individual survey is available on request from MAFF. In addition, the results of the Working Parties' have been published as Food Surveillance Papers. Some Working Parties also produce annual reports and there is an overall annual report[Ref 63] describing the achievements of the surveillance programme and summarising the work carried out by each of the eleven Working Parties during the year.

9. In all, approximately 79,500 analyses were made during 1994, subdivided as follows:

| | |
|---|---|
| inorganic contaminants | 1,200 |
| organic contaminants | 10,300 |
| pesticides | 60,000 |
| radionuclides | 8,000 |

10. The Annual Report of the Terrestrial Radioactivity Monitoring Programme (TRAMP)[Ref 67] includes assessments of doses to critical groups from consumption of food and agricultural products derived from sites near nuclear establishments and a summary of maximum doses to critical groups from consumption of these foodstuffs based on these reports is published as a table in the *Digest*. Measurements of concentrations of strontium-90 and caesium-137 in milk from farms near nuclear establishments are also taken by British Nuclear Fuels PLC (BNFL) and the UK Atomic Energy Authority (UKAEA) and these too are published in the *Digest*. More detailed figures relating to Scotland are published by SO in a statistical bulletin[Ref 62]. Nuclear operators (eg BNFL, UKAEA, Nuclear Electric) produce their own annual reports which give monitoring information on discharges and exposure of the public to radiation in the vicinity of nuclear sites.

11. MAFF also carries out a programme of monitoring radioactivity in the aquatic environment to assess the impacts of discharges in fresh and marine waters. These results are reported annually in the *Aquatic Environment Monitoring Reports*[Ref 3] by the Directorate of Fisheries Research.

12. For levels of radioactivity relevant to health, estimates of public exposure to discharges from sites handling radioactivity are made by the National Radiological Protection Board[Ref 52] (NRPB) and published in tabular form in the *Digest*. Information on radon levels in houses, derived from surveys[Ref 31] undertaken by the NRPB, has been included in recent editions of the *Digest*. Measurement of public exposure is carried out by HMIP and, in the case of licenced nuclear sites, by MAFF which are responsible for monitoring discharges from sites handling radioactive materials.

13. Raw drinking water sources are monitored, against guideline values set by WHO, for levels of radioactivity by analysis of samples by the water companies. Again these results appear, in summary, in the *Digest*.

14. Summary data on the effects of <u>noise</u> from the National Noise Attitude Survey[Ref 21] were presented in the most recent Digest. Results of a National Noise Incidence Study[Ref 47] were also presented and compared with the WHO's recommended level.

15. General information on <u>environment and health</u> was published in a chapter of *The UK Environment*[Ref 69], a statistical work aimed at the more general reader. Subjects discussed within the chapter for their possible influences on health included: lead, other metals, dioxins, pesticides, sewage, radioactivity and noise and cross-references were made to other chapters in the book.

16. The <u>Environmental Statistics Advisory Group</u> (ESAG), comprising representatives from within government organisations and from non-governmental groups involved in the environmental arena, was set up in 1994 by DOE to provide advice on the

collection and presentation of official statistics. It meets twice a year.

17. The Small Area Health Statistics Unit (SAHSU), currently based at the London School of Hygiene and Tropical Medicine, studies available health statistics on a geographical basis in small areas. SAHSU are able to link the incidence of a disease or a particular cause of death to the exact location of the home of the person concerned. Thus, analysis of the statistics enables detection of any unusual incidence of disease in a particular area and the early examination of reports of unusual clusters of disease in the neighbourhood of industrial installations or other sources of pollution. SAHSU, in collaboration with other relevant bodies, has built up reliable background information on the distribution of disease amongst small areas so that specific clusters can be placed in proper context. The unit has also developed the methodology for analysing and interpreting statistics relating to small areas. SAHSU has published several papers and reviews.

18. In Scotland, the Scottish Centre for Infection and Environmental Health acts as a source of expert advice on environmental health matters and coordinates surveillance activities.

19. Collection and analysis of morbidity and mortality data, which may indicate an association between public health and environmental factors, are being addressed in England in two, related, ways: the *Public Health Common Data Set (PHCDS)*; and *Environmental Health Risk Indicators (EHRI)*. A PHCDS has been developed for Wales on the same principles, covering the health priorities in Wales.

20. The PHCDS is a comprehensive set of data on population health. It is designed and produced centrally for use by the National Health Service (NHS) in England and contains a variety of health-related indicators, analysed by Health Authority area. The dataset was developed following a requirement by the DH that Health Authorities' Directors of Public Health should produce an annual report on the health of their resident populations. A joint working group of the DH and the Faculty of Public Health Medicine recommended central analysis of available data in order to avoid duplication of effort through each District having to do this separately. An added advantage of central analysis was the production of comparative data, which would not have been possible locally.

21. Responsibility for the development and specification of the PHCDS rests with the Central Health Outcomes Unit within DH; responsibility for commissioning the analyses, and publication of the dataset rests with the Department's Statistics Division. The first set of Air Quality Indicators may be published in Autumn 1995.

22. DH has commissioned the University of Surrey to publish the PHCDS annually. It is distributed on magnetic disk, accompanied by an handbook, to Directors of Public Health in the NHS to

supplement local data on the health of their populations. The University also produces a National Volume, in hard copy, which is available for sale. Analysis is at national, Regional (historically) and District Health Authority levels and the handbook includes information on definitions and guidance on interpretation.

23. The PHCDS has grown incrementally over 5 years and the set in 1994 incorporated indicators of progress against the national health targets for England set out in the Government's programme 'The Health of the Nation'. These targets address five key areas: cancers; coronary heart disease and stroke; accidents; HIV/Aids and sexual health; and mental illness. Due to changes in computer hardware at the Office of Population, Censuses and Surveys (OPCS), publication of the full 1994 dataset has been delayed but the delay has been used by the PHCDS Steering Group as an opportunity to rationalise the dataset; to highlight and address any overlap and inconsistency between indicators; and to identify gaps for future development.

24. The PHCDS is dominated, especially at District level, by mortality data. Routine national datasets covering risk to health and morbidity are scant. Most current risk indicators are based on national surveys and may only be analysed at the level of NHS Regions. In recognition of this gap, a working group was set up to examine potential existing datasets from non-NHS sources, which might be used to develop new indicators, particularly on potential risk to health. Based on screening of datasets and topics, a few environmental topics were selected for further study.

25. This is a difficult area and as a first step (as an initiative in England, although the results may well be relevant elsewhere in the UK), the South-East Institute of Public Health was commissioned by DH to undertake feasibility studies of potential EHRIs again using available data. The studies were required to:

- review evidence on the relationship between each risk factor and health;
- explore potential data sources;
- specify indicators suitable for the PHCDS;
- comment on the extent to which the data might reflect local risk and be useful to Directors of Public Health in commenting on local health issues.

**Actions**

**Group 3**

26. The cost of the food surveillance programme is expected to continue at about the same level.

27. The DOE is currently undertaking the development of a set of indicators of sustainable development through the Indicators Working Group, comprising members of DOE and other government departments (OGDs) including the DH and the territorial Departments.

28. A study is currently being made of the holding of information within DOE. From this a strategy will be produced aiming to bring greater coherence to the gathering and holding of environmental information, to make information more readily accessible, and to help in the informing of policy and the monitoring of targets.

29. The *Digest* and the *Environment Digest for Wales*, the main summary sources of official statistics on the environment, will continue to be published annually each April and the aim is both to include the same or comparative, updated, information and to develop the scope of coverage. As part of its contribution to the European Information and Observation Network (EIONET), being established by the European Environment Agency (EEA), DOE will be producing an electronic core database based on information included in the *Digest*. This will be accessible through the World Wide Web or Internet. In the longer term, the UK aims to establish a distributed electronic network (as part of EIONET) across which data will be provided for inclusion in the *Digest* and for publications produced by the EEA.

30. *The UK Environment* is intended to be a five-yearly publication and the next is due in 1997.

31. ESAG will continue to meet on a regular basis.

32. The PHCDS will be developed further in a programme over several years. This will include on-going rationalisation of the dataset; the potential for cross-linking with Health Service Indicators is being explored. There will be consultation on proposals for the future development of PHCDS and the results of that consultation will be used as a basis for shaping future datasets.

33. EHRI will continue to be developed from the early work undertaken so far and consideration will be given to other areas which might be explored: housing is one possible topic for future work.

32. The cost of these actions will be met from current administrative resources.

## 2.2 ASSESSMENT OF HEALTH-RELATED ENVIRONMENTAL HAZARDS

**Objectives** (EHAPE para 86)

* To ensure that effective mechanisms exist for the identification and assessment of environmentally determined health hazards.

**Basis for action**

*Risk assessment*

1. This section is concerned with mechanisms for the identification and assessment of risk in a broad sense. Action related to more specific areas is addressed in the relevant sections (eg water in Section 3.1, air in Section 3.2).

2. Given the scientific knowledge available today, it is often possible to identify hazards to health - substances in the environment which are known to be toxic or microbiologically active. It may be much more difficult to distinguish those which will result in actual harm, or to assess and quantify the consequences for health which they present; and yet more difficult to evaluate the costs and benefits (not only monetary and not only to health) of removing or reducing that hazard, and the relative priority to be attached to that work. The effort to identify hazards, and to assess and quantify the risks they present, requires a multi-disciplinary approach. Action plans are needed to define and implement those activities that are required:

i) to identify hazards present in the environment, and the levels at which they are present;

ii) to quantify and assess the extent to which people are actually exposed, the route of exposure and the metabolic pathways by which that exposure may cause actual harm to health; and

iii) to take account of the multitude of other factors which may enhance or mitigate any effects on health (circumstances and level of exposure, interaction with other environmental factors, pre-existing clinical or socio-economic condition of those exposed, lifestyle, diet may all be relevant).

The resulting data will have to be screened using appropriate criteria and judgement to determine priorities and resource requirements for managing the identified environmental health risks.

*Responsibility for action*

3. In England, for the majority of non-occupational environmental risks to health, responsibility for action lies with DOE and MAFF; for microbiological safety of food and for communicable disease, with DH; and for transport accidents, with Department of Transport (DOT). In Scotland, responsibility for action rests with the SO. DH works closely with OGDs and advises them on human health implications of policies. Occupational health used to be the responsibility of the Employment Department Group (EDG) through the Health and Safety Executive (HSE) but, in July 1995, the HSE was transferred to become part of the DOE.

4. In Wales, WO has responsibilities for action relating to non-occupational environmental risks to health, for microbiological safety of food and for communicable diseases, transport accidents and for advising on human health implications of policies.

*Government policy-making*

5. Government policy-making in the UK is informed by medical and scientific assessment of environmental hazards, and the risks to health which they present. There are a number of expert Advisory Committees the work of which is relevant to environment and health concerns: among the principal ones are:

the advisory Committees on Toxicity, Carcinogenicity and Mutagenicity of Chemicals in Food, Consumer Products and the Environment;

the Advisory Committee on Pesticides;

the Veterinary Products Committee;

the Committee on Medical Aspects of Radiation in the Environment;

the Committee on the Medical Effects of Air Pollutants; and

the Advisory Committee on Microbiological Safety of Food

the Expert Panel on Air Quality Standards

the Medical Research Council (MRC) Committee on Toxic Hazards in the Environment and Workplace

the MRC Committee on the Effects of Radiation

the Advisory Committee on Hazardous Substances

the Advisory Committee on Toxic Substances.

Advice on the effects of ionising and non-ionising radiation is provided by NRPB.

*Scientific advice*

6. The Advisory Committees provide an important and greatly valued source of advice from independent experts. Members of each Advisory Committee are selected on the basis of their individual expertise relevant to the work of the Committee, and may be employed in academia, the NHS, or industry; members are appointed, usually, for a renewable term of three to four years.

*Small Areas Health Statistics Unit*

7. Monitoring of the incidence of disease at a local level is carried out in the UK by the SAHSU and a parallel unit at the Office of Population Censuses and Surveys (OPCS). SAHSU was established in 1987 to provide a centre of expertise for investigating alleged links between clusters of disease and industrial installations. Until the formation of SAHSU, there was no systematic national facility for investigating health statistics in small geographical areas associated with point-source environmental pollution.

8. The Unit holds a comprehensive database of postcoded cancer registry and mortality data. Using this database, SAHSU is capable of rapidly generating observed/expected rates of cancer incidence and mortality around any point source in Great Britain. The Unit also holds OPCS data on live births, stillbirths, neonatal deaths and congenital malformations. The latter may present a particularly useful additional data set but there are currently considerable difficulties in its routine use because of the incomplete and variable quality of data from different areas of the country.

*International activity*

9. There is an extensive international effort to identify, assess and address environmental risks to health and the UK is an active contributor to these programmes. This includes the work of the Inter-Governmental Forum on Chemical Safety (IGFCS); International Programme on Chemical Safety (IPCS); Organisation for Economic Cooperation and Development (OECD); the European Science Foundation (ESF); the Council of Europe; and the European Community work on risk assessment of new and existing substances.

**Actions**

**Group**

10. The Government will maintain and further develop high quality scientific research initiatives for the identification and quantification of new or existing hazards to health, the levels to which the general public or vulnerable groups are exposed, and evaluation of associated risks to health. These include:

i) routine collection, collation and evaluation of statistical data on morbidity and mortality at District, Regional and National levels;

ii) research, including work by the SAHSU, into health status of populations close to point sources of pollution;

iii) research, through the Institute for Environment and Health (IEH) and other bodies, into specific environmental conditions, especially air pollution, where there is suspected to be an association with ill-health; and

iv) routine collection, collation and evaluation of statistical data on occupational health (including the consequences of accidents).

Further details of research are given in section 2.8 of this report.

11. The Government will continue:

i) to monitor and evaluate scientific evidence, obtained in this and other countries;

ii) to identify new or existing hazards to health, and levels of exposure;

iii) to assess the impact of such hazards, including those arising from proposed environmental development or change, upon the health of the general public or of vulnerable groups in the UK; and

iv) to encourage suitable training of professional and other appropriate staff to undertake this work.

12. The Government will continue, and further develop, the UK's contribution to the international effort to identify, assess and address environmental risks to health.

## 2.3 CONTROL MEASURES

Objectives (EHAPE para 102)

* To develop an increasingly coherent and consistent body of agreements and regulatory instruments which include provisions for enforcement and review.

* To apply control measures to individual activities on the basis of objective assessments of hazards, without penalizing such activities unnecessarily.

Basis for action

1. In the UK, environmental health has improved significantly over the last 30 years owing to the adoption of environmental control measures. Sometimes improvements in the quality of releases were achieved by changing processes to avoid the generation of pollutants. However, separate legislation for the control of releases to different media was recognised as being inadequate because improvements in the quality of releases to one medium were often at the expense of worsening of a discharge to another medium and, hence, did not represent an overall improvement in environmental quality. The UK therefore introduced a system of Integrated Pollution Control (IPC) for industries with high pollution potential, in which the guiding principle was that releases should be prevented or, where this was impossible, should be minimised and rendered harmless. The releases should also be directed to the receiving medium best able to receive them. This is known as the Best Practicable Environmental Option (BPEO), which was the subject of the Twelfth Report of the RCEP[Ref 54].

2. When considering how the BPEO is to be delivered, it is clear that the ability of a medium to receive releases varies depending on location. Therefore, selection of the BPEO is site specific: it cannot be applied to whole industrial sectors on a general basis. Accordingly, in minimising the impact on environmental health, local conditions are brought into play within the framework of a nationally coordinated and regulated control procedure.

3. In the UK, regulation of the most polluting processes is based on the concept of BATNEEC - Best Available Techniques Not Entailing Excessive Cost. The basic concept is that expenditure required by Her Majesty's Inspectorate of Pollution (HMIP) (or, in Scotland, Her Majesty's Industrial Pollution Inspectorate (HMIPI), which performs a broadly similar role to HMIP), should be proportional to the environmental benefit it brings. In England and Wales, HMIP has given effect to this policy through a series of Chief Inspector's Guidance Notes setting sectoral standards for particular types of plant, which are then modified appropriately by individual inspectors to take site-specific factors into account.

4. In view of the need to establish that the application of BATNEEC is delivering the BPEO, the UK has implemented a system of prior authorisation, in which the operator applies for an authorisation with a description of his process and his evaluation of BPEO. In authorising the process, the regulator imposes legally enforceable conditions on *inter alia* the maximum release levels to each environmental medium at specific discharge points. The authorisation also may impose an improvement programme with a specified timetable within which the process has to be upgraded to a BATNEEC or other appropriate standard for that class of process. The conditions are determined after consultation with agencies responsible for environmental quality standards in the receiving media and with the general public, whose concerns are considered fully. Conditions of authorisation are enforced by the imposition variously of enforcement or prohibition notices or, if required, by prosecution in the courts. When further improvements are required, as a result of either a process or a local environment change, they are brought about by the introduction of a new authorisation following a substantial variation.

5. The UK has established lists of processes for which IPC is required, and these processes are regulated nationally through a Pollution Inspectorate. A further list of processes has been identified for which the release potential (see Glossary) is lower or which only discharge to air (*ie* there is no need for a BPEO assessment). Local authorities are responsible for the enforcement of controls on these processes and for the prior authorisation of use. They operate under the same framework legislation as HMIP using the same principles of BATNEEC and there is close liaison between the two services. The lists of processes are under continuous review, and as it becomes clear that certain industries no longer require authorisation and new industries do, the regulations governing the lists are amended. The DOE provides advice and guidance on control technologies, emission standards, authorisation criteria and the interpretation of legal duties.

6. The UK monitors environmental quality standards for air and water. Exceedances of these standards results in coordinated action (which may include enforcement action, publicity, requests for voluntary restraint and so on) to achieve the standard, and this may include temporary variations in permitted release levels from industrial processes.

7. In considering authorisation of prescribed processes which involve discharges to water HMIP is required to consult the NRA, an independent body created in 1989 to maintain and improve the water environment in England and Wales, as well as MAFF and the statutory consultees. In Scotland, this function is carried out by the RPAs. MAFF is responsible for assessing the potential impact on the human food chain of industrial emissions to air and of discharges to tidal waters. Comments on these emissions and discharges are taken into account in the final authorisation.

8. The responsibilities of the NRA cover pollution control and water quality, water resources, fisheries, conservation, navigation and recreation. The NRA also seeks to protect people and property against flooding by rivers and the sea. These powers and duties, including monitoring and enforcement, are exercisable in respect of inland freshwaters which includes rivers, lakes and canals (surface water) as well as underground waters (normally called groundwater), estuaries and coastal waters (the water quality and fisheries responsibilities being exercisable to 3 and 6 miles from the coast respectively). The NRA is also responsible for enforcing certain European Community Directives. From 1 April 1996 the NRA will become part of the new Environment Agency.

9. The NRA has general responsibility for consenting discharges to water and will do so on the basis, amongst other things, of the informal quality objectives for the waters concerned. In addition, the Secretary of State has powers to set statutory water quality objectives for the purpose of maintaining and improving the quality of waters. The implementation and operation of statutory water quality objectives is to be tested in eight pilot catchments. A decision on the wider introduction of statutory water quality objectives will depend on the outcome of the pilots.

10. The main legislative provisions (certain parts of which are amended by the Environment Act 1995) governing the functions of the NRA are:

Water Resources Act 1991

Land Drainage Act 1991

Salmon and Freshwater Fisheries Act 1975

11. The RPAs in Scotland perform similar functions to the NRA. Their responsibilities for controlled waters in their areas (exercisable up to 3 miles from the coast) include water pollution control, monitoring of water quality, and the conservation of water resources so far as practicable. They also provide and operate flood warning systems. From 1 April 1996, they will become part of the Scottish Environmental Protection Agency. Like the NRA, they have a general responsibility for consenting discharges of water.

12. The main legislative provisions (certain parts of which are amended by the Environment Act 1995) governing the functions of the RPAs are:

Rivers (Prevention of Pollution) (Scotland) Acts 1951 and 1965

Control of Pollution Act 1974

Natural Heritage (Scotland) Act 1991

Agriculture Act 1970

13. The NRA and RPAs have responsibilities in respect of certain EC Directives including:

The Quality of Bathing Waters 76/160[Ref 95];

The Dangerous Substances Directives 76/464[Ref 91], 83/513[Ref 82], 84/156[Ref 87], 84/491[Ref 84], 86/280[Ref 81], 88/347[Ref 85] and 90/415[Ref 83];

The Freshwater Fish Directive 78/659[Ref 96];

The Shellfish Waters Directive 79/923[Ref 97];

Urban Waste Water Treatment Directive 91/271[Ref 100]; and

Protection of waters against pollution caused by nitrates from agricultural sources Directive 91/676[Ref 94].

The Standardised Reporting Directive 91/692[Ref 99].

14. In exercising its pollution control functions, the NRA issues consents to water and sewerage companies in respect of discharges from their water and sewage treatment works, and monitors the discharges for compliance with the terms of the consents. It performs an identical role in respect of other industries discharging effluent directly into rivers and other controlled waters. In Scotland, the RPAs issue similar consents to water and sewage authorities and to industrial discharges. Consent conditions are designed to achieve Environmental Quality Standards (EQSs) for specific substances, which in turn enforce the Environmental Quality Objectives (EQOs) set out in EC Dangerous Substances Directives. Where industrial discharges contain prescribed substances (the 'Red List substances'), the Secretary of State (currently through HMIP but from 1 April 1996 through the Environment Agency) authorises the discharge.

15. Further control measures in relation to disasters are described in section 3.6.

<u>Actions</u>

**Group 1**

16. In areas where local air pollution "hot spots" occur, local authorities will be required to define Air Quality Management Areas (AQMAs) where extra monitoring may be required, and an action plan will be developed by local authorities to impose additional controls on industry and traffic if air quality standards (AQSs) are being breached.

**Group 2**

17. Programmes exist for the monitoring of ambient water and air quality. The further extension of AQSs based on advice from the EPAQS may result in the need for increased numbers of monitoring sites.

**Group 3**

18. The provisions of the Environmental Protection Act 1990 cover reactive (*ie* in response to complaint) nuisance control of all industrial processes (even if not prescribed processes for IPC or local authority air pollution control (LAAPC)) for offences such as noise and vibration, and for odour offensive to man detectable outside a site boundary. This may be extended to light and electromagnetic vibrations depending on the Integrated Pollution Prevention and Control (IPPC) Directive negotiations in the European Union (EU).

19. Processes subject to IPC have their authorisations regularly reviewed, not less often than every 4 years. On a continuous basis, HMIP reviews Best Available Techniques using independent research groups, making use of all technologies available world-wide. Ongoing economic assessment develops the costs of implementing these techniques, to generate an up-to date BATNEEC assessment. At least at the four yearly review, but earlier if there is a significant change in BATNEEC, existing authorisations will be reviewed and improved as required to improve the state of the environment.

20. The costs of these actions are covered in existing resources.

## 2.4 ECONOMIC AND FISCAL INSTRUMENTS

Objectives (EHAPE para 112)

* To improve the functioning of market and planning mechanisms in the private and public sectors, e.g. through economic incentives, so that they take account of health and environmental values and make price reflect the full cost to society of production and consumption, including environmental health costs.

* To encourage, through financial incentives, investments in environmental health.

Basis for action

1. In 1993, the DOE published the booklet *Making Markets Work for the Environment*[Ref 44] which explained that, although regulation could help to meet the goal of higher environmental standards, regulation imposed costs. The UK's policy is to avoid over reliance on regulation and, where possible, to reduce regulation and also to use economic instruments which allow a more flexible and cost-effective approach to achieving environmental goals.

2. While regulation and economic instruments have tended to be presented as alternative means of pursuing a particular environmental objective, it is more often the case, in practice, that both regulation and economic instruments are necessary. Thus, in general, a mix of policies will be adopted, perhaps including financial incentives for the private sector to achieve the desired result. An example is the policy of encouraging motorists to use unleaded petrol: the tax differential, though clearly important, was supported by a publicity campaign; measures were put in place to ensure an adequate supply of unleaded petrol was available; 'two star' petrol was phased out by amendments to regulation.

3. The environmental and health impacts of using various automotive fuels are taken into account when considering the level and structure of excise duties. The recent elimination of the differential in favour of diesel was one outcome of this process.

4. An optimal economic approach to a country's environmental health strategy would require measures to secure abatement of pollutants up to the point at which the damage (including health impacts) exerted by the last unit of pollution was just equivalent to the cost of abating that last unit. Setting aside considerations such as the need to raise revenue, an optimal level of tax would reflect this value. Given the inherent problems associated with valuing externalities such as environment and health ones, the UK is not yet in a position of being able to direct policy using values so far generated, and this area of economic analysis within government is very much an area of work-in-progress. Further work is needed on both the science and the economics if such estimates are to be considered robust enough to directly inform government policy.

5. The DOE published the booklet *Policy Appraisal and the Environment: A Guide for Government Departments*[Ref 51] in 1991. The objective was more effective integration of environmental considerations into Government policy assessments, and to ensure that decisions took full account of potential impacts on the environment. The guide, which was aimed at economists, other specialists and policy-makers across a range of Government Departments, set out a broad appraisal framework and provided advice and guidance on a number of methodological issues, such as how environmental impacts could be identified and assessed, the role of valuation and the use of other techniques like weighting and scoring.

6. In 1994 the Government published a series of case studies entitled *Environmental Appraisal in Government Departments*[Ref 25] of how environmental appraisal had been used in a range of policy analyses across Government Departments, including the DOE, DOT and MAFF. A commitment has been made to review progress on environmental appraisal across government as a resulting of the dissemination of the advice provided in *Policy Appraisal and the Environment*[Ref 51].

7. There has been increasing interest in the development of environmental accounting policies which would enable environmental concerns such as environmental degradation and pollution control expenditure to be taken account of directly in economic decision making. Such accounts are envisaged as "satellite" or supplementary accounts which would leave the national accounts unchanged: this is because there are substantial conceptual and methodological difficulties in adjusting the standard national accounts.

8. The UK in association with others formed a group of national environmental/national accounting experts (called the "London Group") in 1994, with the aim of developing environmental accounts linked to standard national accounting principles.

**Actions**

**Group 3**

9. The Central Statistical Office has set up a small group to develop a pilot system of satellite accounts. The aim is to compile a preliminary satellite account by March 1996, with a view to publishing the account in time for the National Accounts release in the Summer of 1997. The cost is within existing administrative resources.

10. The review of progress on environmental appraisal (para 6 above) will be overseen by the Interdepartmental Group on Environmental Costs and Benefits.

## 2.5 ENVIRONMENTAL HEALTH SERVICES

Objectives (EHAPE para 121)

* To develop at national, subnational and local levels appropriate environmental health services, and the necessary supporting mechanisms, to implement policies to control, prevent and correct environmental factors with adverse effects on health and, where appropriate, promote those which enhance human health and wellbeing.

### Basis for action

1. In 1993, a new definition of environmental health was proposed to WHO. Although it has yet to be formally adopted, it is a helpful basis for this plan:

> "Environmental health comprises of those aspects of human health, including quality of life, that are determined by physical, biological, social and psychosocial factors in the environment. It also refers to the theory and practice of assessing, correcting, controlling and preventing those factors in the environment that can potentially affect adversely the health of present and future generations."

2. The foundations of environmental health management were laid over the course of the last century. The towns and cities which had grown rapidly during the industrial revolution overwhelmed the limited services then available. As a result a significant infrastructure developed in order to provide and improve environmental health services to the changing needs of the population. As the progression of disease and the environmental health needs of the population changed, so the professions established to deal with them have had to change, adapt, and develop to address the new or emerging problems.

3. In addition to the changes highlighted above, central government had to set the overall policy and promulgate the necessary legislation to enable these changes to be implemented at local level. This has resulted in a national framework where objectives and legislation are set nationally by central government departments, whilst the environmental health services are mainly operated at the local, community level through local government units. In Wales, from April 1996, environmental health services will be operated by the new unitary authorities. In Scotland, the equivalent body with similar functions is the Royal Environmental Health Institute for Scotland.

### Central government departments

4. There is no single government department responsible for the whole environmental health function: UK Health Departments have responsibilities within central government for health related aspects of environmental health. The division of responsibility between central government and local authorities is detailed in Annex 5. That annex also describes the role of Environmental Health Officers (EHOs).

5. In the Government document *The Health of the Nation*[Ref 39] the overall goal was set as securing continuing improvement in the general health of the population of England by: -

> adding years to life: an increase in life expectance and reduction in premature death; and
>
> adding life to years: increasing years lived free from ill health, reducing or minimising the adverse effects of illness and disability, promoting healthy lifestyles, physical and social environments and overall, improving quality of life.

6. The Health of the Nation initiative represents a major step forward as the first long term strategy aiming to improve the health of the people in England. To this end it clearly recognises the important and diverse roles that many people and organisations have to play, particularly working through healthy alliances. Local Authorities have a major impact on the health of the community and their importance is recognised. The document identifies and represents a new way of working. Success of the strategy will come through:

* public policies - policy makers at all levels considering the health dimension when developing policies;
* healthy surroundings - active promotion of physical environments conducive to health;
* healthy lifestyles - through increased public awareness as to how lifestyles can affect health; and
* high quality health services - by identifying and meeting the health needs of local populations, by researching and monitoring, which will determine the most effective ways of improving health.

7. Similar policy statements have been published in Northern Ireland, Scotland and Wales with targets which reflected the health priorities of those countries.

8. These strategies highlight the importance of active partnerships between the many organisations and individuals who can come together to help to improve health. These are known as healthy alliances.

9. There is a need to strike the right balance between enforcement and education. New legislation in many areas has of necessity addressed this relationship, and the Government's deregulation initiative has been a key focus in this area.

## Public health in the NHS

10. Within the NHS, departments of public health ensure that public health considerations - including those associated with environmental factors - are fully taken into account in

arrangements for the promotion and delivery of health-care in their areas.

11. At the Regional level, within the NHS Executive, Directors of Public Health (DPH) responsibilities include:

- public health input to central policy and strategy development;

- ensuring delivery of national public health support functions, including outcomes assessment, cancer registries, and national confidential enquiries;

- ensuring provision of support for NHS activity in the control of communicable disease and non-communicable environmental exposures;

- ensuring implementation of public health initiatives, such as the Health of the National (HON), within and through the NHS;

- performance management of public health functions and systems, in and between health authorities;

- ensuring that health authorities have access to adequate and appropriate support for their public health functions, including appropriate access to DH expertise and resources; and

- commissioning of research and development, by the Research and Development Directorate, to support the above.

12. At the District level, DPH responsibilities include:

- assessing local health needs;

- developing and, as appropriate, implementing, local health and health promotion strategies;

- leading the health authority's work in improving the appropriateness and effectiveness of clinical and non-clinical interventions;

- a key role in developing and sustaining relationships between the health authority and clinicians (including general practitioners), local authorities and the local community;

- surveillance, monitoring and control of communicable disease and non-communicable environmental exposures in the district, in collaboration with local authorities and other agencies; and

- providing the focus for public health advice and information in their areas.

Environmental awareness and reporting

13. Within the last 5 years, environmental activity at local government level has increased considerably. This has reflected the growing awareness of the general public to environmental and public health issues, which have been fuelled by the realisation of the importance of safeguarding the environment. The World Conference on Environment and Development in Rio de Janeiro in 1992 gave momentum to the promotion of local Agenda 21 processes within Local Authorities, enabling the principles behind sustainable development to flourish at a local level. The importance of the inter-sectoral approach, and partnership are among the fundamental principles. The cooperation between all key professionals in Local Authorities is a major factor in the implementation of policies that take account of both the short-term needs of the community and the long-term global needs.

14. State of the environment reporting is becoming an increasingly vital tool in the collection of statistical and other information relating to the health and needs of the population. While this concept is in itself not new, the principle has been extended to cover a broader picture of the local scene. The reports can be used for setting targets, for monitoring progress and for judging the success or otherwise of the strategies adopted.

15. The UK recognises that it is part of a much wider global situation and recognises that much environmental policy is driven at international level (Codex, WHO, etc) and supra-regional level (European Community), which requires inter-sectoral collaboration on a much wider scale.

16. Partnerships make the enforcer's job easier and enable Local Authorities to attain the wider objectives on environmental health issues and provide the means to fulfil the needs of the local community. Government has encouraged these partnerships, because, without the support of local people and business, it will become increasingly difficult to implement improvements in environmental health and the objectives of sustainable development.

Actions

Group 2

17. Group 2 objectives will continue to be achieved

at Government level, by formally setting out the aims, goal, priorities and key challenges over a rolling five year period through the Health of the Nation (HON) initiative; and

at local level, by local authorities individually assessing and preparing similar proposals to meet local needs, having regard to the agenda set by central government.

**Group 3**

Appraisal of health

18. In accordance with a commitment in the Health of the Nation White Paper to produce guidance on the appraisal of health, including environmental health, a document is being prepared and is expected to be published by [the end of 1995].

Target setting and monitoring of performance

19. Within the UK, central government has set targets for achievement and set in place mechanisms for monitoring. The *Health of the Nation* White Paper[Ref 39] set 5 target areas for action within England:

coronary heart disease and stroke
cancers
mental illness
HIV/AIDS and sexual health
accidents.

The targets for Scotland are to reduce premature deaths from coronary heart disease and cancers; to lower smoking prevalence and alcohol misuse; and to improve dental health. In Wales, targets have been set to reflect the local health priorities.

20. Target setting and performance monitoring relies on the environmental services providing raw data which can be used for intelligence purposes and for policy decisions. To this end there will continue to be support for a wide network of information gathering of data at local and national level:

i) for microbiology, the Communicable Disease Surveillance Centre of the Public Health Laboratory Service (PHLS) is a centre of excellence in England and Wales for the collection and analysis of locally produced data. The aim of the PHLS is to improve the health of the population through the diagnosis, prevention and control of infections and communicable diseases in England and Wales. Parallel arrangements exist in Scotland.

ii) Central government departments also require local returns of provide data to inform policy decisions. Returns relating to housing conditions, inspections of food premises, samples of food taken for analysis, accidents at work, accidents in the home, morbidity and mortality data are used to assess which environmental health services meet present needs and to set targets for future requirements.

iii) Whilst local authorities are independent of central government, in many areas mechanisms exist to ensure that national policies can be implemented effectively at local levels. For food safety, local authorities have responsibility in the formulation and setting of their service levels, for achieving standards which have been set

in statutory codes of practice. In many areas targets are set using a risk related approach, with the highest risk activities receiving the most attention.

iv) local authorities, as local service providers, are close enough to the public and the industries which they serve to be able to identify and recognise local problems and to categorise those problems for action and control. Coordination of work exists both at local level and at national level with multidisciplinary and multi-sectoral agencies coming together to address their respective problems and priorities. Close working arrangements exist between the NHS and local authorities and government departments where enforcement is undertaken directly at central government level.

## 2.6 PROFESSIONAL TRAINING AND EDUCATION

Objectives (EHAPE para 129)

* To provide education and training at all levels so as to create cadres and teams of environmental health professionals who will be responsible for implementing and managing specific programmes to improve environmental health.

Basis for action

1. The staff who work within the public and private environmental health services constitute the most significant resource available to improve environmental health. Only through them can actions to improve environmental health conditions be carried out and their number and quality will directly affect the services' capacity to act on identified problems.

2. The institutional framework and the policies which determine environmental controls and standards dictate the types of professionals which are needed. However, the demand for improved environmental performance and standards leads to the need for more, and often better qualified, staff. Environmental health is constantly evolving and with it the training needs of its professionals.

3. Founded in 1883, the Chartered Institute for Environmental Health (CIEH) is a professional and educational body, dedicated to the promotion of environmental health and to encouraging the highest possible standards in the training and work of environmental health professionals. In Scotland, the equivalent body with similar functions is the Royal Environmental Health Institute for Scotland.

4. Environmental health is a multifaceted subject, requiring a mix of biology, engineering, science and social interaction. Accordingly staff include such diverse professionals as EHOs, environmental engineers and scientists, food hygienists, public health doctors, veterinarians, pollution control specialists, public health engineers.

5. The professional practice of environmental health relies upon effective inter-disciplinary collaboration between the various technical specialities. There is a need therefore to ensure a level of mutual understanding and management of these various functions. Institutional frameworks have not always allowed this interaction. There is a need to create professional practitioners who can comprehend the many dimensions of environmental health sciences, who can interpret specialists' reports, integrate and critically evaluate them, and render the results clearly in the decision making processes and policy formulation of industry, local and national government. There is a need to balance technical specialists with specialists in the wider aspects of environmental health as an integrating and managerial concept. Agenda 21 of the Rio Conference calls for

human resource development in environmental health, particularly for improved managerial skills and intersectoral collaboration.

6. One of the basic principles of environmental health is the concept of dealing with problems 'at source'. There is therefore an increasing demand for environmental health principles to be introduced within industry and the private sector. Environmental managers are already employed within the private sector within the UK; however, by developing educational and training programmes as an integrated part of other business disciplines, awareness of environmental health considerations can be incorporated at an earlier stage.

7. Because the UK has a long standing and well-developed infrastructure for environmental health personnel, a diverse range of career structures is in place. Training and continuing development of skills are a significant part of that development. Many environmental health personnel are degree qualified, and possess postgraduate qualifications. At the other end of the education scale vocational training is available to enable the less well qualified to enter into a useful career within environmental services. Access to training is available throughout the United Kingdom at universities, colleges of further education and short courses provided directly by Government Departments. The challenge is to ensure that the existing and future environmental health professionals are able to respond and adapt to the changing needs and desires of industry, government and society.

## Actions

### Group 3

8. There is a need to establish a mechanism for the co-ordination of professional environmental health education and training programmes in order to ensure an overview and intersectoral approach is maintained to the provision of environmental health services.

9. Research is required to determine the UK professional profiles needed to deliver effective environmental health services. Such research can aid the development of the core skills required by environmental health professionals. This work will make a significant contribution to the WHO/EURO project on environmental health staffing education and training which is currently at its developmental stage.

10. The interdisciplinary nature of environmental health and the roles and functions of the various environmental health professionals should form a core element in the basic training of those professions working for the improvement of environmental health.

11. Educational programmes and training courses should develop the holistic and intersectoral approach to problem solving. This

should be developed in all courses where there is significant impact on environmental health delivery.

12. Partnerships between the employers of environmental health professionals and the training establishments should be strengthened, through sponsorship and co-funding arrangements. This can ensure that the provision of environmental health professional training is market led.

13. Mechanisms to ensure the quality, consistency and continual development of environmental health education need to be created where they do not already exist. Such systems should be used to control and accredit education and training in this field.

## 2.7 PUBLIC INFORMATION AND HEALTH EDUCATION

Objectives (EHAPE para 139)

* To ensure and enhance participation of the public at the earliest stage in environmental health planning, priority-setting and programme implementation. Such involvement should be based on the principle of openness and equal partnership of all involved.

* To foster such active participation by the public, the necessary knowledge of the environment and health should be ensured, through effective health education programmes and the development of easily accessible information sources.

### Basis for action

#### Environment and health information

1. Any person has a statutory right to request environmental information held by a wide range of public authorities and other bodies in Great Britain, under the *Environmental Information Regulations 1992, SI No. 3240* (separate Regulations apply in Northern Ireland). These Regulations implement *EC Directive 90/313*[Ref 77] on the freedom of access to information on the environment. The Regulations place a duty on bodies to make available information, subject to various discretionary or mandatory exemptions covering, for example, commercial confidentiality and personal information. A person's rights under the Regulations are in addition to their other rights to inspect the many different types of statutory registers of environmental information covering, for example, authorisations under pollution control regulatory systems

2. In April 1994, the *Code of Practice on Access to Government Information*[Ref 11] was introduced. The Code aims to promote informed policy making and debate and efficient service delivery and to provide timely and accessible information to the public. It restricts access to information only where there are good reasons for doing so, for example, to protect the public interest or to maintain personal or commercial confidentiality.

#### Government policy initiatives

3. A guide to *Policy Appraisal and the Environment*[Ref 51] was published in 1991, designed to increase awareness across government of the need systematically to examine the effects on the environment of existing and proposed policies. A further booklet[Ref 25] giving details of environmental appraisal case studies and general guidance produced by various Government Departments was published in 1994. An evaluation of experience with the 1991 Guide [was carried out in 1995].

4. The Prime Minister launched the UK Sustainable Development Strategy on 25 January 1994. At that time he also announced

three major initiatives to develop the strategy and give it practical effect:

* The Government Panel on Sustainable Development;

* The UK Round Table on Sustainable Development; and

* The Going for Green campaign.

5. **The Panel** is a group of five eminent men and women, convened by Sir Crispin Tickell. It provides independent advice to the Government on strategic issues arising from the post-Rio reports: Sustainable Development; Climate Change; Biodiversity; and Forestry. The Panel has been in existence since January 1994,and published its first report[Ref 7] in January 1995. A similar panel advises the Secretary of State for Scotland.

6. **The Round Table** met for the first time on 23 January 1995. It comprises 33 individuals and two chairmen from a wide range of backgrounds: industry, environmental groups, academia, churches, trades unions, consumer groups and local government. The Round Table is co-chaired by the Secretary of State for the Environment and Professor Sir Richard Southwood, a former Chairman of the RCEP: it has the following objectives

* to help identify the **agenda and priorities** for sustainable development;

* to develop **new ideas of consensus** on difficult issues of sustainable development and where this is not possible, to clarify and reduce differences;

* to provide **advice and recommendations** on actions to achieve sustainable development;

* to help **evaluate progress** towards objectives; and

* to **inform and involve others**, building wider support for the emerging consensus.

7. **Going for Green** exists to promote messages of sustainable development to the general public. It aims to inform and motivate individuals to make changes to their lifestyles which will, taken together, make a difference. On 6 February 1995 the national committee, chaired by Professor Graham Ashworth, Chairman of the Tidy Britain Group, launched its campaign to:

* reduce earth, air and water pollution;

* create, protect and improve local environments; and

* reduce demands on precious resources.

8. The campaign will work in five main ways:

(1) as an "umbrella" to bring together environmental initiatives to maximise their impact;

(2) to establish realistic goals, and a system to measure how effective it is;

(3) to encourage individuals to "think green" in their daily lives. It will produce an easy to follow "green code" to show what simple steps can be taken to improve the environment;

(4) using the press, TV and radio to reach people in all walks of life, and seeking to influence those in positions of responsibility to help others to be "greener"; and

(5) to set up pilot projects to measure the effects of the campaign in several defined communities. These will be monitored and tested, then expanded nationwide in years to come.

9. The Convenor of the Panel, and the Chairman of Going for Green are both members of the Round Table.

Education

10. Schoolchildren aged 5 to 16 receive a thorough grounding in education about the environment through National Curriculum subjects, chiefly geography, science and technology. National Curriculum science also contains aspects of health education, and the Government encourages schools to give children appropriate messages about preventative health and lifestyles which promote long-term good health. The Government also draws schools' attention to available information on health and safety issues.

11. A committee appointed by the then Department for Education (now the Department for Education and Employment) and the WO to review the state of environmental education in further and higher education in England and Wales, and to recommend priorities for its future development, issued a report[Ref 28] in 1993 (the "Toyne Report"). The majority of the report's recommendations were aimed at further and higher education institutions. The Department for Education commended the report as a basis for colleges and universities to review how its recommendations are treated within their curricula. The committee considered the whole range of environmental education provision, including courses to educate and train environmental and other relevant specialised personnel. It also made recommendations concerning the provision of continuing professional education for those already in the workforce.

12. In Scotland, the Report *Learning for Life*[Ref 43] from the Working Group on Environmental Education made over 90 recommendations for action by a wide range of organisations. The Report set out a strategy for taking forward environmental education for the next ten years and received overwhelming public support. The Secretary of State for Scotland published *A Scottish Strategy for Environmental Education*[Ref 59], which commends the original Report as a strong foundation on which developments in Scottish environmental education policy will be based. The

Secretary of State's own Advisory Group on Sustainable Development has agreed to act as a central point around which development of environmental education in Scotland can prosper.

## Actions

### Group 3

13. The Government will provide information and advice to the population as a whole and to vulnerable groups regarding the most important environmental risks to health and the action that can be taken to remove or reduce these risks.

14. The "Basis for actions" describes some ongoing activities that themselves contain the seeds of new initiatives.

15. Implementation of the Toyne Report's recommendations is largely for the individual institutions but consideration is being given to its proposal for a folow-up survey to identify good practice and promulgate it widely.

15. The curriculum for the 16-19 age group is currently under review by the School Curriculum and Assessment Authority. The DOE has asked for discussions with the Authority with a view to ensuring the presence of an appropriate environmental element in the curricula undertaken in this phase of education.

## 2.8 RESEARCH AND TECHNOLOGICAL DEVELOPMENT

Objectives (EHAPE para 147)

* To provide the scientific basis for policies aimed at identifying environmental hazards, assessing risks and reducing or preventing environmental effects on health.

* To provide appropriate technology and other tools for the maintenance and development of an environment that is conducive to health and wellbeing.

Basis for action

1. The UK agrees with WHO that rational management of the environment in relation to health is often hampered by gaps in our knowledge of how environmental changes can affect health. Specifically, how they relate quantitatively to health effects and which population subgroups (e.g. according to age, sex, genetic predisposition, sensitivity, nutritional conditions, pre-existing diseases) are more vulnerable to this or that change in the environment and to what extent. Actual exposures of individuals to specific pollutants are almost always unknown. In addition, the not infrequent exposure to multiple environmental factors that may interact with each other and with other factors (e.g. lifestyles, socioeconomic factors), which themselves may contribute to the causation of the same diseases, makes retrospective attribution of causation to any one of these factors inherently difficult.

2. These gaps can be filled only through well planned and systematic research, which will often have an epidemiological element. Among other approaches, such research should aim at defining exposure and/or early damage due to environmental agents at molecular, cellular and functional levels through laboratory investigations, and in populations using appropriate epidemiological studies. Research should also aim at identifying whether environmental factors contributing to the occurrence of unexpected health problems. The Research Councils through the Office of Science and Technology play a major role here in supporting underpinning research, with major relevant investments by the MRC in its Applied Psychology, Medical Sociology, Toxicology, Radiobiology, Environmental Epidemiology, Reproductive Biology and Dunn Nutrition Units, and in the Centre for Mechanisms of Human Toxicology.

3. Because environmental health management involves much more than mere recognition of the need to prevent or mitigate adverse environmental effects on health, research should also encompass the technological and economic fields, in order to develop environmental health-friendly technologies and to reveal the extent to which their likely higher costs, compared with traditional technologies, are offset by gains in health and wellbeing expressed in monetary terms. Likewise, it would be useful to devise methods to compare the detriment and gains that a given activity may simultaneously produce on different aspects

of health and wellbeing, in order to ensure a resulting net balance in favour of health.

4. The detail of the MRC's strategy on environment and health issues is being developed as part of the UK's national research effort, with aims that complement those of the other Research Councils, the Health Departments, the DOE, the Overseas Development Administration and Agencies. In 1993, the MRC, with the support of the DOE and DH, established the Institute for Environment and Health (IEH). The mission statement of the IEH is:

> "The Institute for Environment and Health will promote a healthier environment by facilitating information exchange, identifying and evaluating environmental health issues and managing research programmes on the adverse effects of chemicals, leading to a better understanding of the risks to human health and the environment from exposure to hazardous substances in air, water and soil."

A copy of the IEH's first report, *Air Pollution and Health: Understanding the Uncertainties*[Ref 1], was given to all delegations to the Helsinki Conference.

5. Also in 1993, the UK Government established a **Technology Foresight Programme** to help business people, engineers and scientists become better informed about each others efforts and to identify emerging opportunities in markets and technologies. Separate Panels examined Health and Life Sciences, and Agriculture, Natural Resources and Environment, and have reported recently. The Health and Life Sciences Panel recognised the growing awareness and imminence of global environmental problems, which will lead to increasingly tough action from governments to reduce the consumption of energy and materials. The Agriculture, Natural Resources and Environment Panel called for the development of cleaner technologies as a response to pollution, and a reduction in the transmission of pollutants from the environment into the food chain and better screening of compounds prior to manufacture and release.

6. The DH's **Science and Technology Mission** is to maximise the benefits for health of its science and technology, and to apply research rigour to the problems confronting the NHS, public health and the social services. Its research strategy comprises two complementary programmes, one centrally commissioned and the other the responsibility of the NHS, with an estimated total expenditure in 1994-5 of £62 million.

7. The UK also wishes to investigate what interventions might prevent or ameliorate ill health where environmental factors are implicated, what public health advice could be offered to achieve these aims, and the most effective mode and delivery of that service.

8. A relatively recent concern to emerge is the potentially disruptive effects on human and animal reproductive physiology of a number of man-made substances. Among such endocrine disruptors are oestrogenic substances, some pesticides,

detergents, plasticisers and industrial chemicals such as PCBs and dioxins.

## Actions

### Groups 2 and 3

9. The Government will promote research in such areas as:

* identification of environmental health indicators;

* development or improvement of methods for hazard identification and risk assessment;

* determination of quantitative dose-response relationships between exposures to recognised environmental hazards to health and health effects;

* assessments of the risks of low-level and complex environmental exposures and of the effects on health of interactions between socioeconomic and lifestyle factors and environmental agents;

* identification of groups particularly vulnerable to exposure to certain environmental hazards; and

* identification of damage-causing mechanisms in the general population and in vulnerable groups.

10. Reflecting current priorities in the UK, initiatives have been established:

to investigate endocrine disruptors (£600k is being spent by the DOE alone) and appropriate action will be taken in the light of the findings (preliminary findings are expected in 1995);

to investigate the effect of air pollution on respiratory disease. If sufficient projects of high quality are submitted, present expectations are that funding of up to about £5 million in total would be available over the next four to five years.

to improve methods of exposure measurement and modelling to give a realistic picture of the actual exposure of selected individuals and populations, and identify molecular, cellular and functional markers of early effects;

to encourage technological research and development to make possible waste minimisation, re-use and recycling and to provide low-cost methods of monitoring food, air and water quality and products safety;

to develop methods for comparing the costs of preventive action achieved through technological advances and other

means and the gains expected in terms of health protection and promotion; also for comparing the detriments and benefits to health that the same economic activity may simultaneously bring about;

to advance understanding of host-pathogen interactions in crop plants and farmed animals to underpin the development of new pest and disease control strategies which pose minimum risk to human health and the environment;

to develop methods for the rapid analysis of trace quantities of molecules of biological relevance, both in the bioprocessing industry and in the environment for health and safety reasons and as quality assurance for therapeutic and other agents;

to underpin the development of rational techniques for the safe design and operation of bioprocesses including new quantitative approaches to the risk appraisal for exposure to biological entities; and

to develop the science necessary to control microbial hazards and improve hygiene throughout the food chain from the raw material to the finished product.

11. Work is being considered regarding effects of ultraviolet radiation on skin cancer.

## 3. SPECIFIC ENVIRONMENTAL HAZARDS

### 3.1 WATER

Objectives (EHAPE para 158)

* To protect water sources from biological and chemical contamination.

* To secure, on a sustainable basis, the continued availability of water for human consumption of a quality at least consistent with the WHO guidelines.

* To reduce the incidence of waterborne microbial diseases.

* To reduce exposure through drinking-water to toxic chemicals from industry and agriculture.

Basis for action

1. The water used by over 99% of the population of the UK is from a mains supply. These supplies are of a very high quality and all are safe to drink. All water put into public supply is disinfected to protect public health. These supplies are tested regularly; in England and Wales in 1994, (the last year for which data are available) almost 99.3% of the nearly 4 million of these tests complied with the relevant drinking water quality standards, which include microbiological, chemical, physical and aesthetic parameters. In the UK, some of these standards are stricter than those in the European Community *Drinking Water Directive (80/778/EEC)*[Ref 98], and have been set on health grounds to provide additional protection to public health. The remaining standards are in line with the requirements of the Directive. Samples to determine compliance with the standards are taken from consumers' taps as this provides the best protection to human health.

2. The UK has the highest percentage connection rate to sewers of any country in the European Community (96%). The UK is also among the highest for the provision of treatment. Sewage from 83% of the population is treated, mostly to secondary treatment standards, although coastal discharges in the UK have traditionally been untreated except for simple screening. In 1990 the Government announced its intention that, in future, all significant discharges of sewage would be treated. This policy is being taken forward through implementation of the EC's Urban Waste Water Treatment Directive.

Actions

**Group 1**

Drinking water standards generally

3. In the few cases where not all standards have been met all the time, water suppliers have given undertakings to carry out

the necessary improvements. Water suppliers will have spent an estimated £2 billion between 1989 and the end of 1995 on these improvements. Most improvements at treatment plants are due to be completed by the end of 1995. However in parts of the UK where it is necessary to rehabilitate substantial lengths of water distribution mains the timescales for achieving significant improvements in quality, primarily aesthetic improvements, are longer than for those which only require improvements at a treatment plant.

4. The most important standard for drinking water supplies is that for coliform organisms. Coliforms are not themselves usually harmful when ingested but they are important indicator organisms and if found in drinking water could indicate that other harmful bacteria could possibly be present. Consequently every detection of coliforms is immediately investigated by water undertakers and, when necessary, remedial action is taken. Some detections of coliforms are a consequence of the unhygienic condition of some consumers' pipework and taps. In England and Wales the percentage of water supply zones complying with the coliform standard has improved from 90.9% in 1990 to 99.5% in 1994 as a result of water undertakers completing improvement programmes.

5. Some older properties are connected to the water mains by lead service pipes or have internal lead plumbing. Certain types of water can dissolve lead from such lead pipes. In the areas affected, water suppliers are installing treatment to reduce the amount of lead dissolved from lead water pipes. Most of this work [was] completed by the end of 1995. In most instances, treatment will reduce lead levels in drinking water <u>at the tap</u> to levels not exceeding 25 - 30 µg/l. Some water suppliers also have programmes to replace their parts of lead service pipes to further reduce the exposure of consumers to lead.

<u>Pesticides in water</u>

6. Government policy is to limit the amount of pesticides used to the minimum necessary for the effective control of pests compatible with the protection of human health and the environment. This is achieved through the rigorous approval and review of products, through guidance to users and through research and development. The standard for individual pesticides in drinking water supplies of 0.1µg/l is that of the EC Directive. This standard is precautionary and is not based on the health effect of individual substances. Although some pesticides have been detected in some drinking water supplies at levels which exceed the standard, these exceedances have not been at levels harmful to public health. Where the standard is exceeded, water suppliers have programmes to install treatment to reduce pesticide concentrations. Most of these programmes [were] completed by the end of 1995 at an estimated cost in England and Wales of £900 million. Already there have been reductions in the number of water supply zones not complying with the pesticides standard. This can be attributed to a combination of the completion of improvement programmes by water suppliers

and to lower pesticide usage. Action has also been taken to limit the supply and use of those pesticides which most frequently lead to exceedances of the standard.

Nitrate Pollution

7. Although nitrate reaches water bodies from a number of sources, research evidence[Ref 61] indicates that agriculture is the main source. Other sources such as sewage effluent typically make only a minor contribution to nitrate loads in surface waters at a time when the nitrate parameter is exceeded. The Government has a broad package of measures to control nitrate pollution from agriculture, such as Nitrate Sensitive Areas, under the *Agri-Environment Regulations 1992, SI No. 2078*, and publication of the codes of Good Agricultural Practice[Ref 8, Ref 9, Ref 10, Ref 14] to help farmers reduce nitrate pollution in water. In addition there are some 70 proposed Nitrate Vulnerable Zones, as part of our implementation of the *EC Nitrates Directive*[Ref 94] concerning the protection of waters against pollution caused by nitrates from agricultural sources. The Directive requires measures to be established by the end of 1995 to control certain agricultural activities in these zones with the aim of reducing nitrate pollution of surface and groundwater. MAFF also maintains a substantial programme of nitrate research and development which helps to provide the basis for a comprehensive range of advice to farmers on sensible nitrate practice through such publications as the MAFF's *Fertiliser Recommendations*[Ref 33]. A substantial programme of research into eutrophication in the Ythan estuary is being undertaken by the SO. Under the *Urban Waste Water Treatment (England and Wales) Regulations 1994, SI No 2841*, water companies may be required to undertake nitrate removal from certain sewage discharges into any area identified under the Regulations as a Sensitive Area (nitrate). Corresponding Regulations are also in force in Scotland.

8. The standard for nitrate in drinking water is 50mg/l as $NO_3$. A few water supplies contain nitrate concentrations above the standard. Water suppliers are installing additional treatment or blending with low nitrate supplies to achieve compliance with the standard by the end of 1995 in most cases. Already, as a consequence of the completion of some of the improvement programmes, there has been a significant reduction since 1990 in the number of water supply zones not complying. No confirmed cases of infantile methaemoglobinaemia attributable to nitrates in water have been reported in the UK since 1972.

Private water supplies

9. The remainder of drinking water supplies in the UK is from private boreholes, springs and wells. These are usually found in remote and sparsely populated areas, in which there are widespread problems with microbiological contamination and local problems over lead and nitrates levels. Regulations govern the quality of these supplies, also based on the requirements of the EC Drinking Water Directive, and there are standards for micro-

biological quality as well as chemical quality. The quality of these supplies is regulated, usually by the local authorities who have powers to require improvements to be made, where there is a risk to public health. The NRA has produced a policy for groundwater to protect groundwater sources, including private water supplies. In Northern Ireland, the regulation of private supplies is the responsibility of the Department of the Environment for Northern Ireland.

**Group 2**

Revision to EC Drinking Water Directive

10. In the medium and longer term, the requirement for drinking water quality will be maintaining compliance with standards set under the relevant European Community legislation, with such additional or stricter standards as may be necessary to protect public health in the UK. In May 1995, the European Commission published proposals[Ref 92] for revisions to the current Drinking Water Directive, which the UK will be considering with other Members of the Community. The UK view is that standards in the Directive should be based on the best scientific and medical knowledge available and on a full analysis of the costs and benefits. The Commission's proposals include measures that would require Member States to reduce still further exposure to lead in drinking water.

Urban Waste Water Treatment Directive

11. Implementation of the Urban Waste Water Treatment Directive will ensure that all significant discharges of sewage are treated over a timetable spread from 1998 to 2005. £6 billion is being spent on implementing the Urban Waste Water Treatment Directive in England and Wales over and above the £17 billion being spent by the water industry on other improvements to water and sewerage services over the next decade. The **Urban Waste Water Treatment (England and Wales) Regulations 1994** and the corresponding Regulations in Scotland came into force on 30 November 1994.

**Group 3**

Water resources management

12. For many years the UK has had adequate water supplies for most purposes, although in exceptionally dry years there have been restrictions on some uses such as spray irrigation. In 1994, the NRA issued *Water: Nature's Precious Resource*[Ref 72], which discusses an environmentally sustainable water resources development strategy for England and Wales. It shows that there are adequate water resources for public supply at the present time and that major new schemes are not likely to be required for many years. Even in drier parts of the country, a combination of demand management and the completion of local schemes should be adequate well into the next century.

13. During 1994, the SO carried out an assessment of demands and resources for public water supplies in Scotland covering the period 1991 to 2016. A report on this assessment was published in July 1995[Ref 5]. The report shows that, at national and regional levels, resources are more than sufficient to meet average demands for public water supplies beyond the year 2016.

14. In recent years, new water resources schemes in the UK have been designed to include recreational activity and promote nature conservation. This includes new wetland and water habitats for flora and fauna, facilities and venues for recreation and amenity, forming Areas of Outstanding Natural Beauty (AONBs), and the creation of Sites of Special Scientific Interest (SSSIs). Some reservoirs each attract over 100,000 visitors a year for recreational purposes.

15. Before the creation of the NRA, some abstraction schemes did not take due account of the effect on rivers. To remedy this the NRA has identified 40 low flow rivers in England and Wales where abstractions have severely depleted low flows and where remedial action is necessary. Ten flow restoration schemes have been completed, others are under way and the remainder are at an advanced planning stage. These schemes will take several years to complete, attracting a planned capital expenditure by the NRA of over £4 million in both 1995/96 and 1996/97.

16. In Scotland, where water is generally more plentiful, selective controls over abstraction for irrigation are available. The Government announced in November 1994 its intention to introduce wider, but still selective, powers to control abstractions in the light of the European Commission's proposals for a Groundwater Action Programme, [expected shortly].

Bathing Water

17. A recent UK report has shown that the EC mandatory bacteria standards for bathing waters give adequate health protection. Over 80% of identified bathing waters in the UK already meet or exceed these standards. A £2 billion programme of improvements is well under way to bring the remaining bathing waters into compliance soon.

## 3.2 AIR QUALITY

Objectives (EHAPE para 168)

* To provide information on indoor and outdoor air pollution levels throughout Europe, especially in urban areas.

* To adopt the measures required to bring, by a date to be specified nationally, air pollution levels below the health-related WHO air quality guidelines.

### Basis for action

1. This section deals with indoor and outdoor air quality separately because the basis for action and actions to be taken are very different.

### Indoor air quality

2. Surveys in developed countries such as the UK have shown that, on average, people spend 90% of their time indoors, and 75% of that in the home. Therefore, exposure to indoor air pollutants may have a significant impact on the health and well-being of the building occupants. Rates of respiratory disease and incidence of allergic responses such as asthma have increased in recent years, and there is considerable concern that some of this increase can be associated with changes in the indoor environment.

3. The indoor air pollutants which are of particular concern include nitrogen dioxide, carbon monoxide, biological particulates such as house-dust mites, radon, environmental tobacco smoke and volatile organic compounds. All of these pollutants may have indoor sources, although the levels which pertain in UK homes and the effect of these levels on the health and well-being of the occupants is uncertain. The acquisition of information on the levels and effects of indoor air pollutants is essential before targets may be set to address the problems posed by such pollutants. However, in England and Wales, Building Regulations, which cover new building work, have requirements for ventilation such that an adequate supply of air is provided for people in the building. Revised provisions which came into force in 1995 extend the requirements to non-domestic buildings and improve the performance in dwellings.

4. In controlling indoor air quality, local authorities in England and Wales use the general provisions of Part III of the Environmental Protection Act 1990 relating to matters which are prejudicial to health or a nuisance. In Scotland, Part II of the Public Health (Scotland) Act 1897, as amended, has similar provisions. Investigations carried out to assess conditions are generally at the instigation of the owner or tenant, and resolution may take the form of service of formal statutory notices which, if not complied with, result either in prosecution

or remedial action in default of the owner or occupier directly by the local authority.

Outdoor air quality

5. Air quality in the UK has been improving in recent years and these improvements are set to continue over the next decade. The innovative new systems for dealing with industrial pollution, introduced by the Environmental Protection Act 1990, new vehicle standards, and other measures aimed at mitigating the environmental impacts of traffic are cumulatively reducing emissions. The UK expects to meet its existing international commitments for reductions in emissions of $NO_2$, $SO_2$ and volatile organic compounds.

6. There remain, however, important challenges and uncertainties. WHO Guidelines for some pollutants are still exceeded in the UK, for example during summer and winter episodes.

7. The Environment Act 1995 received Royal Assent in July 1995. Part IV of the Act contains wide ranging provisions to implement the Government's proposals in *Air Quality: Meeting The Challenge*[Ref 2] published in January 1995. The document provides the framework for air quality, based on clear standards and targets, within the context of the Government's wider Sustainable Development Strategy. Key policies are:

* the establishment of a framework of ambient air quality standards and targets for the nine major air pollutants (benzene, ozone, 1.3-butadiene, carbon monoxide, sulphur dioxide, particles, nitrogen dioxide, PAHs, lead). National standards and targets are being set following advice from the Expert Panel on Air Quality Standards; and

* the requirements that local authorities periodically assess their local air quality and, where there is a danger that air quality standards may not be met, that an AQMA be established. Within an AQMA, the local authority will be required to use its planning, transport and pollution control powers to help ensure air quality targets are met.

Actions

Indoor air quality

**Groups 2 and 3**

8. Before specific measures can be formulated and their cost justified by the health benefits they bring, research and development is needed:

* to develop the methodology necessary to sample and examine indoor air;

* to apply that methodology to the monitoring of representative samples of UK homes in order to establish the levels of pollutants that pertain;

* to assess the likely consequences for health and well-being of exposure to both peak and typical levels of pollutants found in homes;

* to measure the rate of pollutant emission from particular sources, such as construction materials and do-it-yourself products; and

* to develop and investigate means of reducing the concentrations of particular indoor air pollutants where necessary, and to find ways of improving indoor air quality overall.

Research expenditure in the region of £1.3m per annum for each of the next four years has been committed to these objectives.

9. In assessing the consequences for health and well-being of the levels of indoor air pollutants found in UK homes, particular attention will be paid to their significance for susceptible groups.

10. As research and development bears fruit, the Government will implement policies which will reduce the concentration of indoor air pollutants where shown to be necessary, and will produce and disseminate advice on how to improve indoor air quality in the non-workplace environment. Options for control include alterations to the Building Regulations, the Housing Fitness Standard, gas safety legislation or product controls.

Outdoor air quality

**Groups 2 and 3**

*A National Strategy for Air Quality*

11. Under the Environment Act the Secretary of State will publish a National Strategy for Air Quality. This will include:

* a framework of standards and objectives for the pollutants of most concern, including small particles;

* a timetable for achieving the objectives;

* the steps the Government is taking and the measures it expects others to take to see that objectives are met.

12. The focus will be on objectives for good air quality and management plans for meeting those objectives. The aim is to avoid episodes of high pollution, but the framework is designed

also to cover appropriate action if episodes occur. The Government intends to publish its Strategy later this year.

13. Local authorities will have new powers and duties to establish plans for delivering these new targets wherever air quality is at risk; and the new Environment Agencies will also play a role. For the present, HMIP, HMIPI and local authorities have obligations to observe appropriate standards in authorising industrial emissions.

14. The standards and targets will be supported by further improvement of an already extensive high-quality monitoring system, and will be reflected in a review of public information arrangements.

15. It will be the Government's objective that air quality targets should be realised everywhere in the UK by the year 2005.

*Local air quality management*

16. Clear standards and targets are essential, but must be supported by effective machinery for achieving them. The Environment Act will bring in a new system of local air quality management. Local authorities will have duty to carry out regular assessments of air quality within their boundaries and to make action plans in areas where objectives are not met or are not likely to be met in future. The Act ensures there will be full consultation Local authorities will have to consult widely in preparing their plans - with the new Environment Agency, the Scottish Environment Protection Agency, highway authorities, industry, other appropriate bodies and the public.

*New tools for local authorities*

17. The Act includes wide regulation making powers to provide for any new tools which local authorities might need. This could, for example, provide for regulations to enable local authorities to undertake vehicle emission checks. The regulations could provide for spot fines for offenders. But any such regulations would not provide local authorities with the power to stop vehicles - this would remain with the police.

18. The system will be carefully targeted, and based on the recognition that it will not be possible to eliminate, in the most cost-effective way, all potential air quality problems simply by the use of national policies. As a first step the Government will develop by the end of 1995 initial guidance for local authorities on assessing and managing air quality,

Vehicle emissions

19. In the *Sustainable Development Strategy*[Ref 65] the Government made it clear that improvements in air quality depended above all on improvements to the transport sector. The Secretary of State

for Transport announced in October 1994 preliminary measures on vehicle emissions and enforcement. An action plan of further transport-related measures is now being developed to form part of the general strategy for improving air quality. They cover the five main themes the Government proposes to adopt for managing the interaction of transport with air quality:

* new standards for technology, emissions and fuels;

* planning policies and local transport strategies aimed at reducing the need to travel and encouraging use of less polluting modes of transport;

* new environmental responsibilities in partnership with public service and other fleet operators;

* tighter enforcement of emissions regulations, targeting those vehicles doing most damage to the environment;

* voluntary action and guidance.

## 3.3 FOOD

**Objectives** (EHAPE para 185)

* To reduce the incidence of and if possible eliminate diseases associated with contaminated food.

* To ensure that food safety is put first in each process and in each part of the food production and distribution chain, from primary producer to consumer.

* To improve public awareness of food safety and hygiene.

**Basis for action**

1. Food can present risks to health both by reason of microbial contamination and also because of the presence of toxic chemicals or radioactive elements. Central government carries out extensive surveillance and research to give a sound scientific basis for assessing the risks and for managing them in a proportionate way through regulation, education or advice.

2. Chemicals deliberately added to food have to be approved in advance as being safe. Maximum levels are set for some contaminants and for residues in food from pesticides and veterinary products. There is tight regulation of emissions of radioactivity from nuclear establishments.

3. The comprehensive surveillance programme, which is targeted on the areas of suspected risk of greatest public concern, generates information on contamination which is then used with dietary intake data to assess actual risks to the general population. Localised elevated levels of environmental contamination are sometimes found but risks to health are generally small. The risks to human health from emissions from nuclear installations are relatively low when compared with those from natural radioactivity.

4. Microbial contamination is relatively common and, as in all countries, the incidence of food-borne illness is widely under-reported. Surveys have been put in hand to provide much better data on its actual incidence and on levels of contamination in the food chain. The completion of the survey on the incidence of food-borne illness is the priority target for action.

5. As all in the food chain must carry their responsibility for helping to ensure that food is safe, the government has promoted the Hazard Analysis Critical Control Point approach as the best way of preventing food-borne illness. This ensures that businesses take the action most appropriate to their own circumstances, while operating within the general framework laid down in accordance with European Community law. It also gives a clear direction to government action and enables regulation to be combined with flexibility.

6. The new Food Safety (General Food Hygiene) Regulations 1995, SI No 1763[Ref 36], implementing the provisions of the EC Directive 93/43/EEC on the Hygiene of Foodstuffs[Ref 78] simplify current legislation and will replace a number of existing sets of regulations. The new provisions are risk-related and link food hygiene to the level of risk. They require that, where risk is high, greater precautions should be taken to avoid any risk of contamination of foodstuffs. These Regulations will operate from September 1995.

Actions

7. The main actions will be to determine more precisely the incidence of food-borne illness and to continue to promote the use of the Hazard Analysis Critical Control Point Approach. In addition, research will be undertaken in an attempt to improve the characterisation of low level risk from chemical contaminants, thus developing risk-based regulation and ensuring better use of resources. In furtherance of the European Health for All Target 22, the UK has already made an input to two WHO-organised meetings on the "Reliable Evaluation of Low-Level Contamination of Food".

8. As part of the implementation of the new General Food Hygiene Regulations[Ref 36], several measures have been introduced to assist food businesses. Firstly, a number of steps, including nationwide seminars and 'roadshow' presentations, have been taken to explain the changes to businesses and enforcement officers. A number of publications, including general guidance notes and an explanatory booklet, have been produced, explaining the regulations and advising on the interpretation of risk-related provisions. The Code of Practice[Ref 12] on inspections has been updated and voluntary Industry Guides to Good Practice have been prepared in collaboration with industry.

9. All of these measures are on-going and will be continued and updated as appropriate.

## 3.4 SOLID WASTES AND SOIL POLLUTION

Objectives (EHAPE para 200)

* To ensure the safe and nuisance-free disposal of (urban and rural) community and industrial waste, in order adequately to protect the health of workers and the public during collection, transportation, treatment and final disposal.

* To minimize waste production and promote recycling, reuse and energy recovery.

* To identify contaminated sites, assess the risks they pose to health and the environment and reduce or eliminate those risks deemed unacceptable.

### Basis for action

#### Regular collection and safe disposal of community waste

1. The Government's policy for waste is based on a hierarchy of waste management options: the reduction of waste, its reuse wherever possible, recycling, composting and energy recovery, and final disposal. However, there will always be certain wastes for which disposal is the most sensible environmental and economic option. The UK's policy is to make the best use we can of unavoidable waste, minimising the risk of pollution or harm to human health.

2. Legislation has been in place since the early 1970s to control waste disposal operations; the Control of Pollution Act 1974 was one of the earliest pieces of legislation of its kind in Europe. MAFF is responsible for the disposal of waste at sea under the Food and Environment Protection Act 1985. As for the disposal of waste on land, a new, and even more stringent system of waste management licensing was brought into force on 1 May 1994 under Part II of the Environmental Protection Act 1990. The Act, and its associated regulations, SI 1994/1056 - The Waste Management Licensing Regulations 1994, impose very strict controls on the landfill of waste.

3. Waste regulation is carried out by waste regulation authorities who use their statutory powers to licence waste management sites, set and enforce conditions on those sites, and prosecute waste pollution offences. A breach of the conditions of a waste management licence, for example, by accepting wastes on a site which that site is not licensed to take, is a criminal offence. It is for the waste regulation authority to take action if it discovers that such a breach has taken place. A conviction resulting from such action could result in the revocation of the licence.

4. Before a waste management licence can be granted, extensive consultation with relevant bodies such as the National Rivers Authority must be carried out. The waste regulation authority must satisfy itself that disposal operations will not lead to pollution of the environment or harm to human health before it

can issue a licence. Conditions are imposed in a licence to ensure that the environment and human health are protected. These will include lists of wastes which can or cannot be accepted at a landfill, and the monitoring of groundwater and landfill gas, both during the operational phase of the site and after its closure, until the authority judges that the site no longer poses a threat to the environment or to human health.

5. Under the new system, in order to surrender their licence, licence holders must apply to the waste regulation authority, who will be able to accept the application only if they are satisfied that the site no longer poses a threat to the environment or to human health.

6. The duty of care, which was introduced in 1992 under the Environmental Protection Act 1990, places a responsibility on everyone who has control of waste to ensure that it is properly managed from production to disposal. Producers of waste must satisfy themselves that they are passing on waste to people who will handle it properly and ensure its proper disposal.

7. Wastes arising from agriculture are mainly recycled to land in the form of crop residues, slurries and manures. However, waste which may pose a health risk (diseased animal material) is disposed of in compliance with the EC Animal Waste Directive [Ref 74] and other domestic legislation.

8. Landfill has a long history in the UK, and a high level of technological expertise has built up. There have been very few serious pollution problems in the past; and under the new regulatory regime, there is even less chance of any such problems in the future. In the UK we are fortunate that the geology in many areas is favourable for safe landfilling. Many landfill sites have natural clay linings which prevent the liquids formed by landfilled waste, or leachate, from seeping out and finding their way to water sources. Where geological conditions are less favourable, however, landfill sites must first be engineered with a suitable artificial lining.

9. Incineration, too, is strictly controlled. Incineration at sea is prohibited.

10. An important part of Britain's policy on the proper management of waste has been to ensure, by the regular collection of waste, that it does not escape from the waste stream. The Control of Pollution Act 1974 introduced responsibilities on local authorities for the collection of certain types of controlled waste (these powers have since been re-enacted in the Environmental Protection Act 1990). Previously there was, in the main, an element of discretion with respect to the collection of house and trade waste.

11. Waste collection authorities (WCAs) now have a duty to arrange for the collection of all household waste, subject to a limited exception for remote or inaccessible premises. In these circumstances the WCA must be satisfied that adequate arrangements exist for the disposal of this waste. The

collection of household waste should be undertaken free of charge except in the case of certain items, such as bulky and difficult to collect waste. A charge for collection may be made in these cases. WCAs must, if requested, collect any commercial waste, and must make a charge for collection unless it is considered inappropriate to do so. WCAs also have powers to collect industrial waste.

12. The public are also able to take their household waste to sites run by waste disposal authorities (WDAs) for disposal free of charge.

13. It is becoming increasingly important that people are aware of the true cost of collecting and disposing of waste they produce. The Government favours a market-based strategy as has been shown in the DOE's recently published draft *Waste Strategy for England and Wales*[Ref 71]. However, a rigid application of this principle to household waste could create practical difficulties (such as increased fly-tipping). Other countries have different arrangements where waste collection is charged for directly either generally or on an experimental basis. The Government's consultation document states that the Government intends to review the evidence to see whether such arrangements have a material impact on the amount of waste generated.

Sewage sludge

14. In the UK, some 44% of the sewage sludge produced is used on agricultural land. Controls in place under the *Sludge (Use in Agriculture) Regulations 1989, SI No. 1263* (as amended by SI No. 880, 1990) and the associated Code of Practice[Ref 13] aim to ensure that sludge use is compatible with good agricultural practice, that the long term viability of agricultural activity is safeguarded, public nuisance and water pollution are avoided, and human,animal or plant health are not put at risk. The disposal of sewage sludge at sea will be phased out by 1998.

Framework for Contaminated Land

15. The first priority in dealing with land damaged by chemical pollution is to prevent or minimise further pollution of that kind. There is an already established modern and effective regime for action, including criminal sanctions, to deal with future pollution on a precautionary and preventative basis. The operation of that regime will be improved by the proposed establishment of an Environment Agency for England and Wales ("the Agency") as successor to the NRA, HMIP, and the Waste Regulation Authorities (WRAs), and of the similar Scottish Environment Protection Agency.

16. The Government is also committed to the 'suitable for use' approach to the control and treatment of existing contamination. This supports sustainable development both by reducing the damage from past activities and by permitting contaminated land to be kept in, or returned to, beneficial use wherever practicable -

minimising avoidable pressures for new development to take place on greenfield sites.

17. This approach requires remedial action only where:

the contamination poses unacceptable actual or potential risks to health or the environment; and

there are appropriate and cost-effective means available to do so, taking into account the actual or intended use of the site.

This applies equally to the treatment of development sites in the planning control system and to the regulatory activities of the Agency (and its predecessors) and the borough and district councils.

Landfill tax

18. Market based instruments can help to achieve sustainable waste management practices in a cost effective manner, by making environmental costs explicit and ensuring that those contemplating activities with environmental impacts take account of these costs.

19. With the introduction of the Waste Management Licensing Regulations, landfill has already been made to absorb more of its environmental costs. The Government now proposes to introduce a landfill tax in 1996, the aim being to reflect more of the remaining environmental costs of landfill.

20. The proposal follows a programme of research and consultation by the DOE, including the 1993 report *Externalities from Landfill and Incineration*[Ref 32], which compared some of the main environmental impacts of landfill and incineration. The authors concluded that the environmental impacts of landfill are higher than those of incineration; and that their findings were consistent with a tax equivalent to around £5 to £8 per tonne of landfilled waste.

21. It is intended that increased costs from the tax will be passed on to waste producers, thereby making them aware of the true costs of their activities and encouraging them to produce less waste; to recover value from more of the waste that is produced, for example through recycling; and to dispose of less waste in landfill sites.

22. The Chancellor made clear in his 1994 Budget the intention to secure these objectives without imposing new costs on business. The impact of the tax will therefore be offset by reductions in the level of employer national insurance contributions.

## Actions

### Groups 1 and 2

23. The Government is in the process of introducing proposals through the Environment Bill to establish a framework for further action on contaminated land. The proposals would require local authorities, in consultation with the Environment Agency, to identify and assess contaminated land within their area and secure remediation. The Government is also preparing and issuing guidance to support these provisions. The proposals also seek to clarify existing law on liability for the cost of remediation.

### Group 3

24. The Government proposes to introduce a landfill tax in 1996.

## 3.5 IONISING AND NON-IONISING RADIATION

Objectives (EHAPE para 211)

* To identify dwellings and workplaces where radon concentrations exceed the WHO guidelines action level and to introduce remedial measures, with priority according to the extent to which that level is exceeded.

* To resolve the issue of safe storage and disposal of high-level nuclear waste and prevent unauthorised access to radioactive materials.

* To minimize unnecessary exposure to radiation and to ensure radiation protection at work.

* To alter behaviour patterns in those European populations where sunbathing habits result in increased risks of developing skin cancer.

* To encourage informed public participation in decision-making on environmental health issues related to radiation hazards.

### Public perceptions

#### Basis for action

1. The UK agrees with the statement in the *Environmental Health Action Plan for Europe*[Ref 27] that "public perception of the risks attached to natural and man-made exposures to radiation seems to be at variance with the known facts: exposure to man-made radiation gives rise to greater concern than the normally much higher exposure to radon".

2. The Government is keen to ensure that public perceptions of the relative risk from various sources of exposure to radiation and also of the relative risk from radiation and from other public health hazards do not lead to inappropriate allocation of public health resources. Studies of public perception and attitudes to radiation risks, including radon, have been carried out as a basis for planning publicity and encouraging public discussion.

#### Actions

**Group 3**

3. The subject of public perceptions of relative risks will form an element of a radiation protection research programme currently being developed by the Department of Health.

Skin cancers

**Basis for action**

4. The *Health of the Nation*[Ref 39] (HON) strategy includes, for England, the target "to halt the year on year increase in the incidence of skin cancer by 2005". The incidence of skin cancer in the UK rose about 40% in the 10 years to 1988. Like most cancers skin cancer has a long latent period. Skin cancer cases occurring in any year will be the result of sun exposure years or even decades earlier. This is particularly true of non-melanoma skin cancer which is believed to result from cumulative exposure. Because of this long interval between exposure and the development of skin cancer, it will be difficult to monitor the effects of interventions and to know in advance if the HON target is likely to be achieved. There are presently delays in the cancer registration system which means that DH currently relies on figures for 1989: this predates the HON initiative.

5. The key to reducing the incidence of skin cancer is to reduce excessive sun exposure. Avoidance of excessive exposure is largely determined by people's voluntary behaviour and there is therefore scope for prevention. It has been estimated that 80% of cases are preventable.

**Actions**

**Group 2**

6. Data on public knowledge, attitudes and behaviour will continue to be gathered through the OPCS and other research to provide data on changes in sun exposure (for example, sunburn prevalence) which could be expected in due course to feed through into a reduced incidence of skin cancer.

7. The OPCS will put in place new systems so that at the start of 2005 data on skin cancer registrations should be available for the year 2003.

8. A programme of activity in support of the target is under way involving DH, the Health Education Authority (HEA), NHS, commercial and professional allies and other Government Departments. In addition to this the media have for some time carried information on the risk of ultraviolet exposure and skin cancer, eg in health columns of newspapers and in women's magazines.

9. Activity is of two complementary types: "structural" changes (on which DH leads) to the environmental, social or economic infrastructure which give individuals choices and enable them to change their behaviour; and health education to alter behaviour towards less solar exposure. In the field of health education HEA is prominent. The HEA skin cancer campaign highlights public health risks and provides information as to what one can do to avoid the hazards associated with over exposure to the sun.

10. Established activities, which will be continued, and in some cases expanded, include:

* OPCS Omnibus Surveys to measure knowledge, attitudes and behaviour (£25k/year over last three years)

* HEA public information activity and support for local campaign organisers, including the "Sun Know How" campaign (£500k/year);

* the inclusion of information about the risk of sunburn in weather forecasts, a freephone line with a recorded message on the risks of excessive sun exposure, and a personal enquiry service through the Health Information Service, at a cost of £250k in the current year;

* local campaigns run by the NHS and other organisers in the voluntary sectors to inform the public in various settings about the risk of skin cancer, eg information stands in shopping precincts, children's projects;

* changing attitudes away from the desirability of a deep tan, particularly among the young; and

* setting in hand research projects on the nature of skin cancer (£400k/year over the next four to five years.

11. The rest of the campaign would focus on the following activities:

* the development of an "interventions database", an information resource of successful projects to assist local campaign organisers in designing their activities and in promulgating the results.

* "Fillers" for TV and radio.

12. DH is also currently in discussion with the HEA about producing literature specially developed to reach high risk groups such as young teenagers.

13. In both Scotland and Wales, although no formal target has been set for reducing the incidence of skin cancer, the issue is being addressed by means of health education material produced by the Health Education Board for Scotland and the Health Promotion Authority for Wales. This material gives advice on the risks and how they can be reduced.

## Electromagnetic fields

### Basis for action

14. The Government obtains advice on radiation risks from the NRPB. The NRPB Advisory Group on non-ionising radiation reported [Ref 22] on electromagnetic fields (EMFs) and the risk of cancer in 1992. It concluded that the epidemiological findings that had

been reviewed provided no firm evidence of the existence of a carcinogenic hazard from exposure of the foetus, children or adults to the extremely low frequency EMFs that might be associated with residence near major sources of electricity supply, the use of electrical appliances or work in the electrical, electronic and telecommunications industries.

15. The report has been considered by the expert advisory Committee on Medical Aspects of Radiation in the Environment (COMARE), whose terms of reference are "to assess and advise Government on the health effects of natural and man-made radiation in the environment and to assess the adequacy of the available data and the need for further research". COMARE endorsed the findings of the report.

16. The NRPB Advisory Group has published two reports, in 1993 (Volume 4, No.5)[Ref 6] and 1994 (Volume 5, No.2)[Ref 23] updating their original report in the light of further published research from Scandinavia. The second supplement concludes that the studies do not establish that exposure to electromagnetic fields is a cause of cancer but, taken together, they do provide evidence to suggest that the possibility exists in the case of childhood leukaemia. The number of affected children in the studies is, however, very small.

17. The reports also concluded that, to date, experimental studies have failed to establish a biologically plausible mechanism whereby carcinogenic processes can be influenced by the low levels of electromagnetic field to which the majority of people are exposed. In the absence of any convincing experimental support, the Group emphasised the need for "large and statistically robust epidemiological studies based on objective measurements of exposure to EMFs and the need to investigate further the basis for any interaction of environmental levels of EMFs with the body."[Ref 6]

## Actions

### Group 3

18. DH is sympathetic to public concern about EMF and will continue to monitor research results, consulting the NRPB and COMARE as necessary.

19. The United Kingdom Childhood Cancer Study, which is organised by the United Kingdom Coordinating Committee for Cancer Research, is a study of the kind recommended by the NRPB Advisory Group. It is examining the possible influence of a number of agents, including EMFs, on the incidence of childhood cancer. DH and SO are contributing to the funding of the study, which is well under way.

20. DH also provides funding to the NRPB which undertakes a programme of research into the effects on health of electromagnetic fields. This includes sources of electromagnetic fields such as power lines and electrical equipment. The NRPB

is responsible for providing advice on appropriate restrictions on the exposure of people to EMFs and has published formal guidance on standards of protection from exposure to EMFs[Ref 6].

21. Neither the NRPB nor COMARE have recommended the adoption of a policy of avoiding electromagnetic fields. The position will be kept under review.

Radon

22. A UK national population-weighted survey of exposure to radon in homes was carried out in the mid-1980s. This showed that average radon exposure in UK homes is low, at about 20 Bq $m^{-3}$, but with a range of 5 to 5000 Bq $m^{-3}$ or more. In 1987 the Government first established an Action Level for radon (which was revised in 1990 to an annual average radon concentration in air of 200 Bq $m^{-3}$,the same as the WHO guideline action level and half the recommended EU action level), above which householders are advised to take action to reduce radon entry. Subsequent surveys have allowed the designation of radon Affected Areas (where at least 1% of dwellings exceed the Action Level) in five English counties and parts of Scotland and Northern Ireland. In Wales, studies to designate radon Affected Areas are being completed, following a survey[Ref 53] published in 1992. The UK is well-advanced in identifying those areas of the country where dwellings with radon concentrations above the Action Level are concentrated. About 20% of the homes estimated in 1990 to have such radon concentrations have been identified. Preferred remedial methods for most different types of construction have been identified and new dwellings in delimited areas of risk have to be provided with protection from radon under the Building Regulations.

23. Legislation requires employers to take action where radon is present above a defined Action Level (Ionising Radiations Regulations 1985, SI No. 1333). Where a workplace is occupied for a normal working day, the legislation is likely to apply if the radon concentration exceeds 400 Bq $m^{-3}$ measured during the winter period. This is equivalent to the Action Level for homes, taking into account the fact that most people spend much more time in the home than at work.

Actions

**Group 1**

24. In August 1994, the Government published a consultation document[Ref 57] containing the preliminary conclusions of its review of radioactive waste management policy. The final conclusions of the review, which were reached in the light of the responses received, were published in a White Paper[Ref 56] in July 1995.

**Group 2**

25. The main focus for further action on radon is to promote remedial action by householders who have already discovered that radon levels exceed the Action Level and to continue to publicise the risks of radon and to encourage widespread radon measurements and subsequent action in parts of the country where these risks are significant.

26. The UK is developing sustainable development indicators to inform the public of environmental trends. These will include coverage of radioactivity in the environment. [The indicators will be supported by a wide range of other published information monitoring environmental radioactivity.]

27. The Government has commissioned research with NRPB to identify the location and types of workplaces where radon concentrations may exceed the action level. This research is being used at a local level to develop strategies for enforcement of radon legislation in the workplace. These strategies are being developed and expanded as the research progresses, enabling resources to be targeted to workplaces at greatest risk. The Government plans to publish guidance with the Building Research Establishment on remedial building work to reduce radon concentrations in workplaces.

## 3.6 NATURAL DISASTERS AND INDUSTRIAL AND NUCLEAR ACCIDENTS

**Objectives** (EHAPE para 220)

* To limit the consequences of natural disasters, prevent the occurrence and limit the consequences of major industrial and nuclear accidents, and ensure the existence of effective arrangements for emergency preparedness for and response to natural and man-made disasters, in and between countries.

* To ensure that the appropriate levels of government and the relevant public services, as well as members of the public, are fully informed of the probability and potential risks of industrial and nuclear accidents, can put those risks into perspective and understand the action required of them in the event of an emergency.

### Natural disasters

### Basis for action

1. Emergency planning in the UK is based on the principle of devolving responsibility to the local level, although some emergencies, *eg* dealing with an oil spill incident at sea, are dealt with nationally. Local authorities and the emergency services are expected to make provision in their budgets for emergencies. The immediate response to an emergency is provided by the emergency services: the Home Office take the lead in this area for central Government.

2. There is no specific grant to local authorities to cover all emergency planning measures. Instead these are paid out of Civil Defence grants from the Home Office, and out of the Revenue Support Grant.

3. The DOE may, under the 'Bellwin Scheme' (described below), provide financial assistance to local authorities in exceptional cases. This is however entirely at Ministerial discretion, subject to Treasury consent, and on the basis of the financial burden of the emergency on the authority. The Bellwin Scheme covers only certain immediate works for safeguarding life or property, or for preventing suffering or severe inconvenience. Of these, it covers 85% of eligible expenditure above a threshold periodically reviewed by DOE. The Bellwin Scheme was last operated for a purpose related to environment or environmental health following landslips on the Isle of Wight in 1993.

4. Water companies (water supply authorities in Scotland) are required by legislation to ensure the provision of a clean water supply.

Actions

Group 3

5. No specific further measures are considered necessary. The normal process of reviewing and testing plans from time to time will continue.

Industrial major accident hazards

Basis for action

6. The UK has a well established system of controls aimed at preventing industrial major accident hazards and limiting the consequences to humans and the environment of any that do occur. In 1984 the UK implemented the Seveso Directive (82/501/EEC)[Ref 88] with *The Control of Industrial Major Accident Hazards* (CIMAH) *Regulations 1984, SI 1902*, which have since been twice amended. The legislation is based on the following principles:

a) the identification of major hazards through a requirement on sites to notify authorities where thresholds of certain dangerous substances are stored or handled;

b) the prevention of major accidents by a requirement on operators to demonstrate safe operation by showing that they have identified major accident hazards and taken adequate steps to prevent them, and for the most hazardous sites, a requirement to submit to the authorities a detailed written report on their activities; and

c) the mitigation of major hazards by a requirement on operators to produce on-site emergency plans and on local authorities to produce off-site emergency plans.

This legislation is principally enforced by the Health and Safety Executive.

7. The legislation requires those responsible for certain industrial chemical establishments to identify the risk of accidents occurring and to demonstrate the safety of their operations. There are stricter requirements for potentially more hazardous installations, including duties to submit written safety reports, prepare on-site emergency plans, and to provide sufficient information to people who live or work near the premises.

8. Local authorities also have powers and duties under the CIMAH Regulations: they must prepare off-site emergency plans; they administer a statutory planning consent mechanism to control the storage or use of hazardous substances at existing or new establishments; and, through land-use planning policy, they ensure that risks to people are taken account of in planning decisions on new developments in the vicinity of major hazard installations.

9. This framework of controls is supported by guidance advising industry on what they should do and by a programme of systematic inspection of sites by government inspectors to assess compliance with the law. Further support is provided by ensuring that health and environmental protection is effectively incorporated into emergency plans by means of exercises, regular reviews and promoting effective communication between responsible organisations.

10. Existing legislation, administrative and enforcement mechanisms achieve the aims and standards of protection required in the UN Economic Commission for Europe (UNECE) Convention on the Transboundary Effects of Industrial Accidents. The UK, along with all other members of the EU are unable to ratify this Convention until a proposed Directive to replace 82/501/EEC is adopted.

11. The UK fully supports this proposed Directive and is encouraging the European Presidency to progress it in order to clarify existing controls, improve enforcement of controls throughout Europe, and introduce new provisions such as land use planning to improve protection of human health and the environment from the effects of industrial chemical accidents.

12. Within the UK, plans for response both to domestic and overseas accidents have been formulated. These specify the organisational arrangements and make provision for informing the public. These plans are regularly tested in exercises.

Actions

Group 3

13. The UK is participating in the framing of a new European directive which will build on existing law to improve further major hazard controls across the EU. The main additional benefits which this will bring are:

a) an increased emphasis on managerial/organisational issues by a requirement on operators to produce a major accident prevention policy which will set out the arrangements for risk management;

b) more reliance on generic categories of substances (eg flammable, toxic) to determine application of the directive instead of using long lists of named substances leading to much greater flexibility in dealing with the changing pattern of dangerous substance usage;

c) improved emergency planning arrangements by a requirement on authorities to test plans at routine intervals;

d) more consistency in approaches to the implementation of major hazard controls between member states.

14. The new regime is expected to come into force in 1997 or 1998. The UK is confident that this framework will provide a sound basis for the prevention of major accident hazards for the foreseeable future. There are costs associated with the regime: on companies in preparing safety reports, producing on-site emergency plans and providing information to people living and working in the vicinity of installations; and on local authorities in preparing and testing off-site emergency plans. The costs and benefits are difficult to quantify but the benefits of a rigorous control strategy are likely to far outweigh the costs. Major accidents are invariably costly, both directly and indirectly as a result of the loss of public confidence.

15. The UK will also improve, through national legislation, the framework of controls over pipelines carrying dangerous substances on and off-shore. The legislation will be aimed at ensuring the integrity of pipes through goal setting requirements. This will allow for different approaches from operators and give much needed flexibility to enable advantage to be taken of new technology or improved knowledge about risk. The legislation is expected to be implemented on 1 April, 1996.

16. The UK will, as the opportunity arises, seek:

* to consolidate existing legislation and make improvements which focus on the importance of managerial/organisational factors in accident prevention;

* to improve the legislation and guidance on emergency plans so that action in the event of incidents is more effective;

17. The UK will promote research:

* on the short and long term effects of industrial chemical accidents on human health and the environment, and identify direct and indirect pathways of exposure and their significance;

* into the development of methodologies to accurately assess risks of chemical industrial accidents occurring, and the likely consequences to man and the environment.

The UK will use the results of research to increase awareness by developing guidance on risk assessment, practical accident prevention and mitigation, emergency planning and post accident response.

18. The UK recognises the importance of international co-operation in this field and will continue to play a full and active role in the work of relevant organisations. Chief amongst these are:

a) The Committee of Competent Authorities of the European Community and its technical working groups which are looking at key aspects of the control of major accidents with a view to producing guidance to assist member states and industry.

b) The OECD's Expert Group on Chemical Accidents which provides a forum for the exchange of information and develops common principles, procedures and policy guidance on accident prevention, preparedness and response.

c) The UN's Awareness and Preparedness for Emergencies at Local Level (APELL) programme which aims to improve awareness of major hazards, in particular the response to incidents, by publishing guidance, providing training and the exchange of information through workshops, and providing technical expertise at the request of governments.

d) The UNECE which has produced a Convention on the Transboundary Effects of Industrial Accidents, the signatories of which meet to share information and develop mechanisms for improving co-operation eg setting up a centre for emergency training and exercises.

e) The International Labour Organisation (ILO) which has produced a Convention concerning the prevention of major Industrial Accidents.

19. Through its international involvement the UK will seek:

* to ensure that there is effective exchange of information between countries on the causes, controls, prevention, preparedness and responses to major accident hazards; and

* to develop guiding principles on these issues which are soundly based on good practice.

Nuclear accidents

Basis for action

20. There are well established plans and arrangements for dealing with the consequences of an accident at a UK civil nuclear site. Prudence dictates that such plans should be prepared, although the chances of any accident happening which could have consequences for members of the public are very remote.

21. The arrangements follow the normal principles for emergency response in the UK. The initial reaction would be at the local level, and would be handled, as appropriate, by the site operator and the local emergency services. These local agencies, which include the police, local authority and fire service, are involved in the preparation of emergency plans to protect the population which could be affected in the event of a radiological emergency and the testing of plans at regular intervals in exercises. Representatives of relevant central government departments are also involved in this process.

22. Central Government's role in an emergency would be to brief Parliament, the media and the public at the national level; and

coordinate the provision of any necessary specialist assistance or extra resources needed to support the local response. The Government would also appoint a independent technical adviser, called a Government Technical Adviser (GTA), to provide advice to the local emergency services on the action they should take to protect the public. At media briefings, the GTA would also be the authoritative Government spokesman on the course of the emergency.

23. The supply of information to members of the public who could be affected by a nuclear emergency is governed by the Public Information for Radiation Emergencies Regulations 1992 (PIRER). The regulations implement European Council Directive 89/618/Euratom. PIRER requires that members of the public who live close to a nuclear facility and are at risk from a reasonably foreseeable radiation emergency should receive certain prescribed information in advance of any emergency happening. This information is distributed at regular intervals and is also permanently available to the public. PIRER also requires local authorities to prepare and keep up-to-date arrangements which ensure that members of the public actually affected by any nuclear emergency receive prompt and appropriate information covering the facts of the emergency and advice on intended health protection measures.

24. The duration and extent of an emergency would depend on the scale and nature of the radioactive release. Once the release had terminated, environmental contamination would be checked and anyone who had been evacuated would be advised by the police when they could return home. At about this stage the emergency condition would be officially terminated, but the return to completely normal conditions might take place over a period of time.

25. Broadly similar arrangements are in hand to respond to any accident involving defence nuclear assets.

26. Following the Chernobyl accident the UK Government also established a new plan - the National Response Plan - for dealing with the consequences of overseas nuclear accidents. A key feature of this plan was the establishment of a new national radiation and nuclear emergency response system known as RIMNET (Radioactive Incident Monitoring Network). The National Response Plan arrangements make full provision for the distribution of information concerning the effects of any overseas nuclear accident on the UK and the action required to deal with them. Such information would be issued to appropriate levels of national and local government and those engaged in the response, as well as members of the public.

27. The UK provisions for dealing with both domestic and overseas nuclear accidents have been set out in published documents[Ref 4, 46].

Actions

Group 3

28. The UK will continue to take a prudent approach in considering the possibility of an nuclear emergency, either in the UK or overseas; emergency plans will continue to be exercised and updated in the light of experience.

# 4. LIVING AND WORKING ENVIRONMENTS

## 4.1 URBAN AND RURAL SETTLEMENTS

Objectives (EHAPE, para 245)

* To improve social and physical living conditions in settlements, particularly for the disadvantaged, in order to prevent disease and accidents and enhance the quality of life.

Basis for action

1. The priority aim of the Government's housing policy is to ensure a decent home is within reach of every family, through promoting home ownership, securing better value for money in the public rented sector, promoting the private rented sector, and maximising the use of existing stock. Government pursues this aim having regard to the resources it considers the country can afford.

2. Poor housing can pose obvious environmental health problems for urban and rural dwellers alike. Location, design and appearance are also relevant. The importance of housing to the health of the nation and its impact on the environment have long been recognised. The justification for Government intervention in housing was first and foremost a health one.

3. However, the problems associated with poor housing at the end of this century are of a wholly different order of magnitude to those of the first half of the 19th century. Today as a result of considerable Government investment and action on slum clearance and housing improvement, particularly over the last fifty years, the nation enjoys vastly improved housing conditions. Both the 1991 *English House Condition Survey*[Ref 24] and the *Welsh House Condition Survey*[Ref 73] show, for example, that virtually all dwellings have a bath or shower in a separate bathroom; an inside WC; and that over four fifths of the stock has full or partial central heating. The next such survey in England will start in 1996.

4. The housing fitness standard lays down minimum conditions and amenities deemed necessary for a dwelling house to be fit for human habitation. The standard comprises a set of statutorily enforceable requirements - see Annex 6 . Local authorities are charged with responsibility for enforcing the standard. A dwelling house is unfit if, in an authority's view, it fails any one of the requirements and because of that failure is not reasonably suitable for occupation. A local authority may decide to demolish, close, or more usually, require an owner to repair a dwelling assessed as unfit.

5. Judged against the requirements of the housing fitness standard, the 1991 English House Condition Survey found around 1.5m dwellings - or fewer than one in ten - were unfit. This

represents a reduction of 10% on the equivalent 1986 figure. In Wales, unfitness fell from 19.5% to 13.4% between 1986 and 1993.

6. But the fact of a continuing improvement does not mean that the problems will solve themselves. Within a generally satisfactory overall position, there remains a need to reduce still further the level of unfit housing - particularly in respect of dampness and cold for which there is a growing body of evidence on the links with physical health. Dampness and cold in housing along with factors such as overcrowding, lack of facilities for young children to play, and poor design contributing to problems of crime, noise and lack of privacy may also affect mental health - eg through increased stress and depression.

7. But while the links between housing and health are recognised, poor housing and poor health are typically only two of a range of problems which tend to occur together. Other related factors often include poor nutrition, self neglect (eg smoking) and unemployment. There is as yet no reliable evidence that improving poor housing alone will bring corresponding improvements in health. Evidence of <u>some</u> correlation is not necessarily a prescription for greater intervention.

8. Over and above health considerations the demand for more homes - driven by an increasing population which is living longer and by more people living on their own - has to be met in a sustainable way. It is important that housing development does not encroach unacceptably on green field sites which are part and parcel of a healthy environment. Better use needs to be made of our urban areas. People need to be encouraged to live and work in them. Planning and land use policies are directed at making better use of derelict and empty urban land for housing; and by providing for higher density developments within towns and cities, are maximising the use of the existing infrastructure and reducing the need for green field sites. Rural settlements are also important in sustaining a healthy and thriving rural economy.

9. Through a statutory, regulatory and advisory framework central government works in close partnership with local government, housing associations and the private sector in the delivery of its housing policies. These policies aim to maximise housing choice and facilitate the levering in of private investment alongside that from the public purse to help meet individuals' aspirations. This allows both central and local government to concentrate on assisting those in real need - those who are in the poorest housing conditions and those who have insufficient resources to get a decent home without help.

10. Comprehensive Building Regulations ensure new homes are well designed and built. Strengthened requirements in Building Regulations for thermal insulation and ventilation came into force in July 1995. Energy efficiency measures can be particularly effective in reducing the incidence of condensation and mould growth and in providing thermal comfort. Energy

efficiency is being actively promoted across all sectors of the existing stock.

11. Environment and health issues will continue in the forefront of housing policy considerations. In particular, the Government is committed to:

* providing affordable social housing for those in long term need;

* directing public expenditure more effectively towards those people and areas that most need support;

* carrying out a further English House Condition Survey in 1996;

* continuing to require local authorities to prepare housing strategies for tackling housing needs in their areas;

* working in partnership with local government, housing associations and the private sector in the delivery of its housing policies;

* providing help with essential repairs to private sector properties to those who need it most;

* continuing with a programme of housing research - for example, into health and safety aspects of buildings - as a means of informing future policy and measures;

* strengthening local authorities' powers to ensure health and safety standards in houses in multiple occupation.

Actions

12. The Government's proposals for taking forward its housing policies into the 21st century have been set out in a Housing White Paper: *Our Future Homes - Opportunity, Choice, Responsibility*[Ref 49]. The Government is pursuing a range of measures and programmes which will help to improve environmental health in urban and rural settlements. Details of the most significant are set out below.

Measures on homelessness

**Group 1:**

13. A key Government target is to ensure that there is no necessity for people to sleep rough. The **Rough Sleepers Initiative** (RSI) in England is helping to reduce the number of people sleeping on the streets of central London. The latest count (May 1995) found numbers sleeping rough in central London were down to 270 from a total of over 1,000 when the RSI began in 1990. Five consortia of statutory and voluntary agencies, set up under the RSI, have proved highly effective in targeting

resources and activity. The Government intends to continue the RSI in central London beyond March 1996, when it was due to end, and outside central London it will consider assisting the development of the RSI model in areas where rough sleeping can be demonstrated to be a major problem. In Wales, the Rooflessness Advisory Group is reviewing the extent and causes of rooflessness in the Principality. In the meantime, local authorities have been offered central funding to tackle any immediate problems.

**Group 3:**

14. Local authorities are required under housing legislation to secure accommodation for homeless households in priority need groups (eg those with children, the vulnerable, etc). In the year ending December 1994, 122 660 households in England were accepted for permanent rehousing. Broadly similar numbers are expected for 1995. In Wales, 10 341 households were accepted as homeless. These numbers are on a downward trend.

Provision of affordable housing

15. Government provides funds for local authorities and housing associations to meet housing demand in urban and rural areas. Over the coming three years provision of an additional 180,000 social lettings is planned in England. The Housing Corporation's English rural programme has approved over 10,800 new housing units in rural areas between 1989/90 and 1994/95 - some 1600 above target. The target for the 1995/96 rural programme is some 6% of the Corporation's new development programme[Ref 45].

16. Around 80 schemes approved under the first round of bidding for Single Regeneration Budget challenge funds will include significant housing content. It is estimated that the schemes will result in construction or improvement of over 50,000 dwellings. In Wales, the Estates Partnership scheme embraces many features of this initiative. Provision is about £11 million per year.

Measures and programmes to regenerate run down urban areas

17. A holistic approach is being taken to tackle run down urban areas in England. The following key activities are funded through the Single Regeneration Budget whose objectives include enhancing the quality of life of local people, including their health and cultural and sports opportunities; tackling crime and improving community safety.

* **Housing Action Trusts (HATs)** are providing a radical solution for run down council housing estates by improving their housing management and the living, social and environmental conditions. Six HATs are in place with funding of £270m allocated to them over the next three years.

* The **Estate Action** programme is helping to transform run down local authority housing estates into places where people want to live by providing extra resources to local authorities to implement regeneration schemes. £373m was spent in 1994/95.

* **City Challenge** is helping to revitalise urban neighbourhoods through the formation of partnerships by the local authority with the private sector and local community using urban and housing resources. The city challenge approach involves taking a strategic view of the needs of an area. Health improvement (eg through the provision of new or improved health centres and facilities) is a high priority for city challenge partnerships.

Tackling the worst council estates

18. Over the past ten years, over £2 billion has been targeted to improve 500 of the very worst council estates. The Government is committed to transforming, through a public and private sector partnership, the remaining large scale poor quality public estates by 2005.

Housing management

19. The quality of life for people living on local authrority housing estates is being improved by raising standards of housing management and giving tenants a greater say in how their estates are run. The main spur to this improvement is the introduction of compulsory competitive tendering of housing management. This will ensure that management is carried out by the contractor able to provide the service with the best value for money. Tenants will be involved at all the key stages in the competition process from drawing up the contract specification to tender selection.

20. The Government has given tenants important new statutory rights. These include a right to take over management of their estate as part of a Tenant Management Organisation and a right to have urgent repairs which might affect health, safety and security done quickly and easily. The Government is attaching high priority to helping councils tackle vandalism, crime, and other forms of anti-social behaviour on council estates to make them safer and less stressful places to live. Local housing authorities are being encouraged to work closely with the police, health and social services authorities and other agencies to develop a strategic approach.

Large scale voluntary transfers

21. Local authorities may, with the agreement of their tenants and the Secretary of State, transfer their housing stock to housing associations. Such transfers bring benefits in terms of investment in the housing stock, better service, increased

accountability to tenants and capital receipts for local authorities.

Making best use of housing and land

22. The **Housing Partnership Fund** in England, which provides money for worthwhile housing investment projects, particularly schemes which bring empty properties back into use and effect major energy efficiency improvements, will continue in 1995/96 with £30m funding from central Government. In Wales, these initiatives are supported under a number of housing programmes.

23. Housing is a key part of the **Quality in Town and Country Initiative** which aims to stimulate debate and ideas on how best to achieve quality in cities, towns and villages. The Government is putting in place a programme of action to take forward the Initiative.

Energy efficiency

24. Local authorities are expected to take full account of energy efficiency in their housing strategies and in the annual housing programmes they submit to central Government. The Government is committed to improving energy efficiency in new and existing homes by requiring higher building standards; promoting awareness of energy issues; and setting targets for local authorities.

Rural settlements

25. The Rural Development Commission (RDC) is the Government's main agency for promoting the economic and social welfare of people who live and work in rural areas. The RDC runs a number of programmes which aim to ensure that standards of living are raised and that individuals are not disadvantaged by living in the countryside. These include:

* **Rural Challenge.** This competition provides £1 million each year over the three years for projects which show an imaginative and innovative approach to tackling specific problems in rural areas.

* **Redundant Building Grants.** This programme aims to encourage the private sector to provide workspace by using buildings which are redundant or likely to become redundant, thereby creating new job opportunities and assisting in the diversification of the rural economy. Expenditure in 1994/95 was £3.3 million.

* **Rural Action.** This scheme seeks to promote community-led projects to enhance the local environment, including the tackling of dereliction and pollution. It is jointly funded by the RDC, English Nature and the Countryside Commission to the tune of £1.2 million a year. Grants of

up to £2,000 are offered towards the costs of projects, specialist advice, technical services or training. The balance of the costs can then be met from other sources and can include donated materials or volunteers' time.

26. The RDC also finances the Rural Transport Development Fund which fosters public transport to assist the mobility of those without access to private transport. Such provision is important to those who need access to other services, including health facilities.

27. The same general approach is taken in Scotland in achieving the objective set out at the beginning of this section but the measures and administrative arrangements used differ to suit Scottish circumstances.

## 4.2 OCCUPATIONAL HEALTH AND SAFETY

Objectives (EHAPE, para 254)

* To reduce progressively but significantly the frequency and severity of occupational accidents and diseases and narrow the disparities between countries and between high-risk and low-risk occupations, through the wider adoption of measures that are in force in the best-run workplaces.

* To establish and develop high quality, cost-effective occupational health services as an integrated and basic element of a comprehensive health strategy for the working population of the European Region.

* To ensure eventual access in all countries to a comprehensive occupational health service which reflects the risks to which workers are exposed, giving the most immediate attention to those workers who are at greatest risk of work-related disease and injury.

Basis for action

1. The relatively high standards of health and safety at work in the UK are built on a tradition of health and safety regulation originating early in the 19th century.

2. This tradition has culminated in a single comprehensive framework of legislation regulating virtually all the risks to health and safety arising from work activity, and working through a single integrated set of institutions. This was achieved through the Health and Safety at Work etc Act 1974, which has facilitated a comprehensive view of needs and provisions in health and safety, and coordinated action to tackle them in a way related to actual levels of risk.

3. The Act established the Health and Safety Commission (HSC) and HSE. The HSC has carried out a wide-ranging review of health and safety regulation, publishing a report[Ref 55] in 1994. The review concludes that the system of regulation was widely supported. The HSC has now embarked on a programme to improve compliance by making it easier for employers and others to understand what is required of them. This will enable them to concentrate in maintaining improving standards of health, safety and welfare at the workplace, free of unnecessary reading, form-filling and record keeping.

4. The UK has separate systems for the prevention and treatment of work-related ill-health. Employers are legally responsible for prevention by means of competent management assisted by occupational health and safety advisers. Some, mainly larger, companies have access to such advice from their own, in-house, occupational health services (OHS) whilst others may be members of group OHS or make use of outside consultants. Treatment is provided by means of primary and secondary health care providers through the NHS, although some companies may also offer aspects of treatment through their OHS.

5. Risk assessment is well-established as a central principle of UK law on health and safety at work. Employers and others creating risks are legally required to assess these arising in their workplace so as to determine scientific risk reduction measures. In seeking to consolidate this approach, priority is being given to making risk assessment easier to understand.

6. The UK has promoted in the European Community the use of risk assessment combined with cost-benefit analysis to achieve risk reduction measures which are rational, affordable and commensurate with the risk.

7. An effective health and safety regime depends critically upon sound information on work injuries, ill-health and dangerous occurrences. Prompt and accurate reporting of incidents, is essential if enforcing authorities are to have proper opportunities to investigate. Aggregated statistics guide the development of policy and enable priorities to be set.

8. The existing occupational injury and disease reporting schemes show that the UK's performance in risk prevention and control is equal to or better than that of other developed countries. These reporting schemes and other analyses indicate a number of priority areas and problems:

* management competence;
* competent occupational health advice
* practical solutions to health problems;
* health and safety in small and medium size enterprises (SME)
* in terms of specific injuries or diseases, musculo/skeletal disorders, stress/depression, lung disease (asbestos/asthma), hearing loss, and hand-arm vibration.

9. Difficulties in managing health and safety at work require specific efforts to improve workplace performance, particularly in SMEs. The UK has launched a major 3-4 year publicity and interventions campaign on managing health, which recognises that small firms often do not have management structures and systems to tackle occupational health problems. It will seek to provide them with the information they need to take necessary action themselves and to decide when to seek further advice and guidance. The HSE publishes guidance[Ref 29, Ref 34, Ref 35, Ref 64] on the basic process of managing health.

10. Training is the key to achieving and sustaining competence. The HSC has launched an initiative to encourage more and better health and safety training, with special emphasis on small firms, management and safety representatives. Competence based qualifications for occupational health and safety practitioners are being developed - the first, in general health and safety, was launched in June 1995.

11. The HSC has set as a priority for 1995/96 a major study to determine which of their various contact techniques work best at achieving health and safety improvements by SMEs. The study, based on a standardised evaluation method - aims to identify and assess the changes in health and safety performance brought about by seminars, workshops, mailshots and publicity initiatives, as well as by inspection. The results will provide important information about the stimuli behind any changes, eg intervention by the regulatory authorities, liaison with intermediaries or the employer's own initiative.

12. HSE publishes simple, easy to use guidance on a wide range of issues and problems. Where these bear on specific risks such as those mentioned above - for which specific action programmes and targets have been set - they illustrate solutions through descriptions of recognisable, real life case studies which employers can relate to their own work place problems.

## Actions

### Group 3

13. To support the promotion of risk assessment combined with cost benefit analysis (see para 6) it is proposed to commission research into the valuation of safety benefits, based on a study of what people are willing to pay for such benefits. The UK will continue to press for greater coherence and consistency on approach and methodologies at national and international level. In particular, the UK is considering organising a further conference on risk assessment as a follow up to the one held in London in 1992.

14. The HSE is bringing forward new regulations (to be in force in 1996) which aim to simplify the requirements for reporting work injuries, ill-health and dangerous occurrences and to establish a single coherent legal framework to govern such reporting across virtually all economic sectors (see para 6). HSE also aims to improve the rate of reporting accidents and other events with the potential to cause harm. This will use data from Labour Force Surveys and, through systematic recording of information from accidents which are investigated, provide representation in-depth information for important types of accidents within and across all major economic sectors. HSE will continue to contribute to improving the validity of international comparisons of accident and ill-health data.

15. The HSC plans to issue a consultative document early in 1996 on the repeal of outdated training regulations (see para 10).

16. The UK is undertaking a national programme to assess standards of management of occupational health risks, using a common methodology.

17. A major study will be conducted by HSE to determine the techniques which are most effective in helping small firms to take action proportionate to the risks which arise from their

activities (see para 11). Techniques such as seminars or workshops or working through intermediaries (eg insurance bodies or trade associations) will be assessed. The HSC will issue a discussion document seeking views on how to improve compliance by SMEs and the self-employed.

18. A programme is under way to review all HSE's guidance and the majority of this work is expected to be completed by the end of 1997. HSE also expect, by the end of 1995, to have in place clear practical guidance for small firms on most key areas of risk.

19. HSE will continue to carry out audits to develop improvements in health and safety management in larger organisations.

20. In furtherance of its training policy, HSE has an on-going annual budget of £500 000 for its Training Initiative.

# 5. ECONOMIC SECTORS

## 5.0 INTRODUCTION

1. The legislation which governs all facets of the economy in regard to environmental health has been described in terms of environmental health management tools in Chapter 2 and in terms of specific environmental hazards in Chapter 3. To avoid repetition, this chapter deals with only matters which have not arisen earlier. However, the following sections of this report are of particular relevance to this Economics Sectors chapter:

2.3 Control measures;
2.4 Economic and fiscal instruments; and
4.2 Occupational health and safety.

## 5.1 INDUSTRY

Objectives (EHAPE para 273)

* To define government-set goals for protecting the environment as clearly as possible, and to explicitly include requirements for health. In moving towards these goals, to take action only when careful and authoritative risk assessments and cost-benefit analyses justify it.

* Generally to install the environmentally soundest technology in all industries, having due regard to its cost-benefit and cost-effectiveness ratios.

* At all stages of industrial development, to give due attention to total quality management and continuous improvement of the quality of all aspects of industrial activity, including occupational health and safety and environmental health.

* To apply economic incentives to encourage compliance with environmental legislation, which should be carefully devised to ensure the continued modernization of the most competitive and important industries through the application of the best available technology. Decisions should be made about the scale and types of incentive best suited to encourage the phasing out of obsolescent and non-competitive industries to conformity with existing domestic competition rules.

* To use economic incentives to encourage potential investors in countries in transition, for example by limiting investors' liability for existing levels of pollution. Prior to any investment, a detailed standardized report will need to be made of existing levels of pollution on the site and its surroundings, and a timetable drawn up so that investors can reduce levels of pollution over a reasonable period of time. This approach will provide a framework on which to base environmental investments while ensuring a decrease in levels of pollution.

Basis for action

Voluntary Action by industry

2. It is a central plank of the Government's policy towards industry that it should be encouraged to view the environment as a business issue which should feature at the heart of its commercial strategy. The Government has therefore welcomed and nurtured efforts by industry voluntarily to exceed minimum levels of performance as established by Regulation. It has also welcomed collective actions which enable industry itself to take the lead in meeting environmental challenges and thus obviate the need for Regulation.

3. A clear indicator of industry's willingness to take voluntary action has been the increasing tendency for Trade Associations to take environmental initiatives. One of the earliest and most important of these developments is the "Responsible Care" programme of the Chemical Industries Association (CIA). Although the concept did not originate in the UK, the CIA have wholeheartedly embraced it and developed it as a major factor in the UK chemical business. It is a condition of CIA membership that companies adhere to the Responsible Care principles. Responsible Care includes guidance on how to ensure that management systems deal with the environment concerns that are specific to the chemical business. CIA make annual reports on industry performance in the health, safety and environment sphere.

4. The CIA are not alone. There have been initiatives by a number of other trade associations. The Knitting Industries Federation has set up a working party to offer advice on environmental issues affecting the dyeing and finishing processes. The British Apparel and Textile Confederation and the Metal Finishing Association have working groups to raise awareness of environmental issues and increase the commitment to deal with them. The UK Offshore Operators Association has formulated guidelines on good environmental management and the British Cable Makers Confederation have instituted a code of practice on environmental issues. The British Leather Confederation have started a process of education and debate with their members on the best technological solution to environmental problems.

5. The UK Government has welcomed these initiatives. It has established an Environmental Technology Best Practice Programme which promotes the use of better environmental practices which reduce costs for UK industry and commerce. The programme concentrates on two main themes, waste minimisation and cost-effective cleaner technology, focusing particularly on areas of special attention, of which there are currently seven. These are mainly sectoral but one is a class of pollutant. It works with Trade Associations as far as possible, and it is hoped that the forging of such relationships will encourage other Trade Associations to take a proactive position on the environment.

6. Trade Associations are also making efforts to assist UK firms in applying the British Standard (BS) on Environmental Management Systems - BS 7750. They are drawing up sector application guides which will assist firms in dealing with the specific issues raised in applying the standard in their industry. The interest in BS 7750 is probably the most obvious indicator that UK firms are taking a proactive stance on environmental issues. Applying the Standard will establish a culture within businesses whereby they will analyse their environmental impacts and formulate policies and targets to address those impacts in line with their business objectives. Thus companies will take a methodical approach to waste minimisation, improving pollution control beyond the statutory minimum and to recycling opportunities; they will enter into a process of continual improvement based on a cycle of audit and management review.

7. The EU's Eco-Management and Audit Scheme (EMAS) goes one stage beyond BS 7750 in requiring a public environmental statement on performance. UK companies are well placed to participate in the scheme because of the interest in environment management and the fact that certification to BS 7750 should meet all but the reporting obligations of the scheme. The UK Government welcomes the increasing interest in positive environmental management and is promoting in the benefits of Registration to the EMAS scheme.

8. EMAS is based on the premise that there is benefit to companies in reporting on their environmental performance. The UK Government supports such openness and is encouraging companies to look at the potential for obtaining competitive edge by making their environmental achievements known to customers, investors and employees. The UK is one of the leading countries in terms of the number of corporate reports that are issued and there are annual awards - intended to highlight developing best practice - for the best reports. The UK Government is stimulating a debate on how companies may best develop environmental reporting to meet their requirements and those of their stakeholders.

9. Another significant development in the field of voluntary activities has been the Producer Responsibility Initiative. This was launched by Government in July 1993 as a challenge to business to act voluntarily and obviate the need for regulation. The challenge was to those who make, sell and package products to assume more of the responsibility for the waste which arises from them. The initial success has been in industry formulating its own way of implementing EC Directive on Packaging and Packaging Waste[Ref 89]. The Producer Responsibility Group published its plan "Real Value from Packaging Waste" just before the adoption of the Directive. Other dialogues are taking place on those involved in the following waste streams: newspapers, consumer and automotive batteries, tyres, vehicles and electronic equipment.

10. UK companies that can demonstrate significant advances in the development of products, technology or processes which are commercially successful and which offer major benefits to the environment, may be eligible to win the Queen's Award for

Environmental Achievement. These prestigious awards were established with effect from 1993, alongside the annual Queen's Awards for Export and Technological Achievement. By providing high profile examples of commercially successful and environmentally beneficial initiatives by companies of all sizes, the Awards will help to encourage others throughout industry to follow suit.

11. In the 1990 White Paper on the Environment, *This Common Inheritance* the UK Government undertook to establish a forum to promote general dialogue with business on environmental issues; the Advisory Committee on Business and the Environment was established in May 1991 to fulfil this commitment. Its terms of reference are to help mobilise the business community in demonstrating good environmental practice and management, building on existing initiatives and activities; and to provide a link with international business initiatives on the environment.

12. Following a successful first term the Committee was reconstituted in November 1993. Members are drawn from a wide range of sectors. Its next report is expected in Summer 1995.

## Actions

### Group 3

13. The system of controls described in section 2.3 is inherently progressive and no specific actions are planned beyond those previously described.

## 5.2 ENERGY

Objectives (EHAPE para 283)

* To control emissions of fossil fuel pollutants from large industrial sources (including power and heating plants, metal smelters) in those industrialized areas where health is affect by the resulting air pollution.

* To carry out environmental health impact assessment prior to making new investments in energy technologies, thereby emphasizing the need for prevention rather than subsequent mitigation.

* To reduce transboundary acid deposition and greenhouse gas emissions. In western Europe, technology is already being applied to reduce emissions of particulates and sulfur dioxide. However, if gas emissions are to be curbed further improvements in fuel efficiency will be needed, as well as much greater efforts to promote energy conservation.

* Effective pollution abatement technology is already available, but the cost of installing it in established or obsolete enterprises is prohibitive, especially during economic recession. Moreover, the initial capital will only be recovered in the medium or long term. However, other less expensive measures can be taken to reduce fuel consumption and improve energy efficiency. Discontinuing unrealistic subsidies, for example, would undoubtedly reduce fuel consumption and thereby pollution levels. However, a sudden increase in the cost of energy, especially in countries with severe winters, would involve major hardships. Changes in energy-saving policies can therefore only be achieved gradually.

* To encourage the development of cost-effective non-polluting energy sources. The local mix of energy sources will be determined by local circumstances and require appropriate monitoring to make planning possible. In deciding on their energy policies, countries will need to consider the availability of energy resources both nationally and globally (as well as the impact of individual energy sources on the environment) and the possibilities for greater use of renewable sources and wastes for energy production.

Basis for action

1. The aim of the UK Government's energy policy is to ensure secure, diverse, and sustainable supplies of energy in the forms that people and businesses want, and at competitive prices. The Government believes that this aim will best be achieved by means of competitive energy markets working within a stable framework of law and regulation to protect health, safety, and the environment. Government policies also aim to encourage consumers to meet their needs with less energy input, through improved energy efficiency

2. The Government's approach to energy policy is that, so far as possible, decisions should be left to markets operating in a

competitive environment. Steps are being taken to increase the amount of competition: larger industrial and commercial consumers are already able to choose their suppliers of gas and electricity, and the years from now until 1998 are stages in a transitional process leading towards the full unwinding of the "franchise" (monopoly) market for the sale of electricity and gas. After 1998, all consumers - domestic, commercial, and industrial - will have the opportunity to choose their energy supplier.

3. The former publicly-owned energy utilities have been sold into the private sector, and the Government now has no direct involvement in the activities of any of the companies in the energy sector. The UK Government ensures, however, through its comprehensive systems of pollution controls and environmental impact assessment, that each energy technology installation is effectively regulated in terms of its environmental health impact. It is for the companies themselves (or the promoters or developers of new energy technologies) to take decisions about technologies, investment, prices, and R&D in the context of their commercial position and to justify their proposals in terms of environmental impact. There are no price subsidies for particular groups of consumers.

4. The Government's residual interests in energy market issues are as follows:

(i) the Government continues to offer some support for research into advanced, cleaner coal combustion technologies, for which there is no immediate prospect of a domestic market. This support is aimed primarily at facilitating industrial collaboration.

(ii) Nuclear power generation remains under the direct contol of Government through its sole ownership of Nuclear Electric, Scottish Nuclear Ltd and BNFL. The Government has however announced plans to pass into private ownership the advanced gas-cooled reactor and pressurised water reactor stations owned by Nuclear Electric and Scottish Nuclear Ltd.

(iii) the Government has imposed a Non-Fossil Fuel Obligation on suppliers of electricity to contract for specified amounts of electricity from non-fossil sources, with its higher costs paid for via a levy on consumers' electricity bills. Most of this money supports nuclear generation of electricity, although this will end next year when the more modern nuclear power stations are privatised. An increasing amount of it goes to renewable technologies: the aim is to establish and develop these technologies, such that they will be available against need over the coming decades.

5. Although the Government has no direct role in particular decisions by the supply side, companies must, of course, formulate their own plans in the context of the "framework of law and regulation" mentioned in paragraph 1 above. This means that

they have to have due regard to any relevant environmental and/or planning requirements: such requirements will extend from actions necessary to meet the UK's international commitments (such as those on carbon dioxide, sulphur dioxide, nitrogen oxides, and VOCs), to issues of local planning. The major responsibility for negotiating and promulgating these various requirements lies with the DOE: enforcement is a matter principally for HMIP, the NRA, and local authorities, depending on the issue under consideration.

6. The UK Government promotes increased efficiency in the use and supply of energy (for example, through its promotion of Combined Heat and Power technology), and believes that cost-effective energy efficiency measures lead to improvements in economic efficiency, which helps to protect the environment through the containment of $CO_2$ emissions, and makes an important contribution to sustainable development.

Actions

7. No new specific measures are planned but the current policies exert progressive pressure for the achievement of the objectives. Accordingly:

* targets for the reduction of acid emissions from existing large scale combustion plant have been set under the EC Large Combustion Plant Directive[Ref 79]. These targets are for reductions of sulphur dioxide emissions of 20% by 1993, 40% by 1998 and 60% by 2003 and reductions of oxides of nitrogen of 15% by 1993 and 30% by 1998. All reductions are based on 1980 levels. All plants require authorisations under the Environmental Protection Act which are periodically updated, in the light of developing technology, to ensure that there are programmes in place for meeting the requirement to use BATNEEC.

* In granting authorisations to new combustion plant the relevant regulatory authorities will assess proposals to ensure that they are based on use of BATNEEC and an assessment of the BPEO. They will also ensure that such plants do not exceed the specified emission limits in respect of sulphur dioxide, oxides of nitrogen and dust, laid down in the Directive.

* The UK also signed the UNECE Second Sulphur Protocol in 1994. This sets the UK target of reducing sulphur dioxide emissions from all sources by 50% by 2000, 70% by 2005 and by 80% by 2010, compared with 1980 levels.

## 5.3 TRANSPORT

Objectives (EHAPE para 288)

* To reduce road traffic injuries, disabilities and deaths by 25% by 2000 compared to 1990.

* To reduce gaseous and particulate emissions from road traffic to achieve levels consistent with the currently accepted air quality guidelines throughout the Region.

* To abate noise from traffic and congestion.

* To set and enforce speed limits and carry out frequent blood-alcohol tests on drivers, with appropriate penalties for those exceeding agreed levels. The rules should apply to all categories of drivers.

* To check the roadworthiness of all vehicles, including government and military vehicles and heavy goods vehicles, at regular intervals; to check at the same time their exhaust emissions and noise levels. Manufacturers or vehicle owners should be given a strict deadline to put the fault right.

* To safeguard the rights of pedestrians (especially old people, children and disabled people) by ensuring that road crossings are provided and clearly marked at frequent intervals and that pedestrians' priority on them is carefully observed; to keep pavements free from parked vehicles; to indicate clearly the sites where and times when motor vehicles must give way to pedestrians (who should in turn respect the rights of other road users); to provide bicycle lanes wherever possible and encourage their safe use.

* To regulate traffic in order to reduce accidents, pollution and noise, and to improve communications with cities by making environmentally friendly transport modes, e.g., public transport and cycling, attractive alternatives. These might include, when necessary, restrictions on private and commercial traffic within the city centre and the relocation of traffic and transport streams by e.g. the construction of ring roads and redesign of public transport means and routes. The increasing use of heavy goods vehicles in international transport calls for cooperation between neighbouring countries to develop an integrated transport policy (see paragraph 338).

* To thoroughly investigate car accidents, at least on a suitable sampling basis, to identify the relative contributions of human, mechanical, structural and environmental (particularly road) factors to their causation; and to assess the likely impact on road safety of improvements in vehicle and road design.

Basis for action

1. An effective transport system is an essential part of modern life. People's jobs, their way of living, and national competitiveness in international trade depend on a modern transport infrastructure. Demand for transport in Great Britain

is much greater than it was 40 years ago. Passenger traffic by all modes has tripled and the volume of freight traffic has more than doubled. Road remains the dominant form of transport with 94% of all passenger transport and 64% of freight moved by road in 1993.

2. But road transport has also exacted heavy human costs through the number of victims of road accidents; it was responsible for 3,814 road deaths in 1993 and more than 300,000 casualties. These figures represent significant reductions on previous years which will help the UK to meet its target, set in 1987, of a one third reduction in road casualties by the year 2000 compared with the annual average from 1981 to 1985.

3. It is a criminal offence in the UK to drive or attempt to drive with alcohol in excess of the legal limit (80 milligrammes of alcohol in 100 millilitres of blood) or to drive when unfit through drink or drugs. Being in charge of a vehicle in such conditions is also a lesser criminal offence.

4. Persuading drivers to drive more safely by publicity and education is an important element in the DOT's strategy. In 1994-95, some £4.5 million is being spent on research to devise and assess measures to promote safer behaviour on the roads. For example, work is being done on drink-driving; speed; young or inexperienced drivers; and safety for pedestrians and children.

5. Approximately £6.5 million has also been allocated to publicity on road safety. Included in this are the high profile anti drinking and driving publicity campaigns which have been held for many years at Christmas and in the Summer. The number of fatal and serious casualties in road accidents involving illegal levels of alcohol fell by around 60% between 1983 and 1993. Other continuing campaign themes are reducing excessive speed and improving child safety.

6. Comprehensive road accident data are collected by the Police of every incident in which a person is reported as injured. This is collated and published each year by the Government Statistical Service. Detailed analysis of these statistics, together with a specific research project guides the development of policy in respect of the Government's road safety objective.

7. Motor vehicles are also a major source of pollution nationally responsible for 49% of emissions of nitrogen oxides, 51% of black smoke, 91% of carbon monoxide and 38% of volatile organic compounds (VOCs).

8. Considerable progress has already been made in reducing the contribution that transport makes to air pollution through the introduction of improved vehicle emission standards. The first round of improvements introduced in 1993/4 for all vehicle types substantially reduced emission limits for carbon monoxide (CO), hydrocarbons (HC), oxides of nitrogen ($NO_x$), and particulates (PM) for cars, (directive 91/441/EEC), commercial vehicles (Directive 93/59/EEC), trucks and buses (Directive 91/542/EEC). These measures promoted the widespread use of catalytic

converters on petrol cars and vans which typically reduce emissions by 75 to 80%. Diesel engined vehicles were subject to a particulate limit for the first time. There are already almost 5 million cars and vans fitted with catalytic converters - one quarter of the fleet - and natural replacement will see the bulk of the remainder fitted with them by the end of the decade.

9. The effect of these standards is already evident - national emissions of oxides of nitrogen, VOCs, carbon monoxide and particulates have stabilised or are falling. Even if no further measures were taken emissions would continue to fall until well into the next decade as old vehicles are replaced by newer cleaner models.

10. But further measures will be taken; legislation has already been put in place for a further tightening of these standards which will come into effect in 1996/97. These new requirements, which are in line with those being implemented in the United States between 1994 and 1996, will halve the particulate limit for heavy diesels and cut it by one third for diesel cars, reduce the carbon monoxide limit for petrol engined cars by 30% and by 70% for diesel engined cars and reduce the hydrocarbons and $NO_x$ limit by half for petrol cars and 40% for diesel cars. Yet further tightening is planned for the year 2000.

11. Almost all vehicle types in the UK have been subject to annual roadworthiness testing for many years. Vehicles which pass the test are issued with a roadworthiness test certificate to confirm that fact, and this is valid for one year.

12. It is illegal to use a vehicle which is subject to testing on a road without a valid test certificate being in force. This means that a vehicle owner or operator must have faults rectified, and that the vehicle must subsequently pass a roadworthiness test, before it can legally be used on the road again. Motorists who fail to comply with this requirement are liable to prosecution and a fine of up to £1000.

13. Improvements in design have also brought about significant reductions in the level of noise emitted by new cars and lorries compared with their equivalents of 10 years ago. Further reductions in noise levels are to be introduced in 1996. Meanwhile research is being undertaken into body rattle from heavy lorries and the EU is considering controls on tyre noise.

14. The UK is paying increasing attention to the interaction between transport and land use planning. Local authorities have an important role to play in this area since they have the main responsibilities for transport planning measures which could help to improve air quality. The Government aims to help local authorities deal with transport-related air pollution through: improved guidance on planning and transport; research on the role of traffic management; and discussing with authorities ways of taking air quality into account in transport plans and expenditure.

15. Cycling and walking also have a role to play. Cycling is widely acknowledged to be capable of conferring notable health benefits. That is as true of utility journeys - to work, school, shop and so on - as it is of trips made for sporting, recreational or tourism purposes. Increases in cycling and walking, if at the expense of motor vehicle use, can also contribute to reduction of atmospheric pollution.

16. Strong encouragement is being given to measures which give people the confidence to cycle more. These include the provision of safe and convenient cycle routes, using cycle tracks and cycle lanes along with protected crossings of major traffic routes; better interchange arrangements with public transport; improved cycle parking in public places; reasonable amenities at the workplace such as changing and showering accommodation and storage lockers; and educative messages which represent cycling as a sensible and appropriate means of making a wide range of local journeys.

17. Decisions on the provision of pedestrian crossings are for the appropriate highway authority, although technical guidance (on siting and design) is provided by the Department of Transport. Pedestrians have legal precedence when they are on the carriageway within the limits of a "Zebra" (uncontrolled) crossing, and on a "Pelican" (light controlled) crossing when the signal to cross is illuminated. It is an offence for motorists to disobey a traffic signal. The carriageway on the approach to pedestrian crossings is normally marked by zig-zag lines. In this area motorists may not overtake another moving vehicle or overtake a vehicle that has stopped to give way to a pedestrian.

18. The Department of Transport is currently testing a new form of crossing known as the "PUFFIN" (Pedestrian-User-Friendly-Intelligent) which is intended to replace the Pelican crossings in the long term. It is equipped with pedestrian detectors which hold the vehicle signals at red until all pedestrians are clear of the crossing. This helps particularly the elderly or infirm who require more time to cross than the conventional crossing allows.

19. The Government's national road construction programme also makes a valuable contribution to reducing the level of road casualties and pollution. About one quarter of the schemes in the current programme are bypasses which remove heavy traffic from residential and shopping streets. Bypasses bring benefits in terms of both safety and amenity to local communities.

<u>Actions</u>

20. The Government has called for a national debate on transport policy in order to encourage a wider discussion of the issues around which choices must be made. *Transport: The Way Ahead*[Ref 61] contains edited versions of speeches by Dr Mawhinney, the then Secretary of State for Transport, and sets out how the Government proposes to take forward the debate. The Government hopes that people will come together to discuss the issues and let it know their views. The Foreword to the document also promised a

further report drawing together the threads of the debate and setting out the way forward.

21. While debate continues, the Government has no intention of suspending all policy activity. Therefore, the Government will:

* continue with the high profile publicity campaigns on drink-driving, reducing excessive speed and improving child safety in an effort to change driver's attitudes;

* provide local authorities with tools to develop transport strategies aimed at reducing the need to travel and encouraging use of less polluting modes of transport;

* develop environmental responsibilities in partnership with public service and other fleet operators;

* improve enforcement of emissions regulations, targeting those vehicles doing most damage to the environment; and

* provide effective guidance to the public on greener motoring.

## 5.4 AGRICULTURE

Objectives (EHAPE para 297)

* To reduce human exposure to risks related to agriculture and animal husbandry without compromising the primary aims of agriculture and related activities, namely the provision of adequate and safe food. To this end, the closest cooperation will need to be established between human health, veterinary, agriculture and forestry professionals.

* To widely promulgate and apply simple and understandable rules on the amount and timing of use of pesticides, particularly in fish farms, on the wider use of antibiotics in animal husbandry, and on the application of agrochemicals on agricultural crops, if necessary through the adoption of legislation, so as to protect both the farmers and consumers as well as the surface- and groundwater draining the land.

* To train farmers in the use of agricultural practices that make more limited use of fertilizers and pesticides.

* To dispose or reuse animal waste and offal in such a way that pathogens are destroyed and nitrate contamination, especially of groundwater, is minimized.

* To conduct frequent and thorough inspections of intensive animal farming practices for the early detection of infections, especially by *Salmonella* and *Campylobacter*, which, without necessarily affecting the animals themselves, present a risk to the consumer.

* To improve practices in forest management to prevent serious environmental hazards to local populations and to achieve sustainability in accordance with the recommendations of the 1992 European Conference of Forestry Ministers.

* To conduct irrigation in such a way as to reduce to a minimum the risk of salinisation and of exposure to fish- and rodent-borne parasites; and to identify areas and streams where such parasites are prevalent and take strict measures to avoid human infestation.

* To conduct continuous surveillance of conditions under which agricultural produce is harvested, transported and stored, in order to minimize losses of food and the possibility of its moulding in barns and silos, as well as of contamination of food by chemicals.

Agriculture

1. Risks to health from agriculture are covered in the sections on food, water pollution and waste disposal.

## Pesticides

### Basis for action

2. It is important that everyone involved in the use of pesticides has adequate training to ensure that pesticides are applied safely and efficiently. Certificates of Competence are already mandatory for certain users of agricultural pesticides who must hold a certificate if providing a commercial service or if born after 31 December 1964. But there may be scope for more guidance on minimising the use of pesticides.

### Actions

3. By the end of 1996, MAFF will investigate the possibility of encouraging more emphasis on better targeting of pesticides and other means of minimising use via Government Codes of Practice, leaflets and other publicity material and through the provision of advice and guidance by non-Government bodies. The cost of any guidance will be borne within administrative resources.

## Forestry

### Basis for action

4. In April 1995, the Government introduced revised forestry incentives to give more emphasis to management and protection of woodlands and to encourage greater use of natural regeneration of native woodlands. A special management grant encourages woodland owners to allow the public access for recreation and exercise.

5. The community woodlands incentive encourages new woodlands close to towns and open to the public.

6. The community forestry initiative was given final approval by Ministers in Spring 1995. It promotes multipurpose forestry in the countryside adjoining twelve major cities in England. Local people contributed to the planning of the forests.

7. Since the Ministerial Conference on the Protection of forests in Europe held at Helsinki in 1993, the Government has published guidance on the management of native woodlands and also on the use of native species to create new woods. Planting of new broadleaved woodlands in 1994 (10,800 hectares) was greater than in any of the previous twenty years. *Sustainable Forestry: The UK Programme*[Ref 66] sets out the Government's policies and objectives for sustainable forestry. These policies are based on the two principles of a steady expansion of forest cover and sustainable management of existing woodlands. To these ends, the programme sets out policies for protecting forest resources, enhancing economic value, conserving and enhancing biodiversity and the physical environment, developing opportunities for

recreational enjoyment, conserving landscape and cultural heritage, and promoting public understanding.

Actions

8. In 1994, the Forestry Commission introduced a revised system of forestry incentives. Provision has been made for new planting of nearly 67,000 hectares in the years 1995-98 at a cost of approximately £100 million. In addition, a further £38 million will be paid to farmers who plant trees on agricultural land. Incentives are also provided to woodland owners to encourage sustainable management and to allow public access and recreation. By the end of March 1998, it is estimated that 370,000 hectares of woodland will have been approved for management grant.

9. In addition to this grant aid, in respect of its own estate of 2 million hectares the Forestry Commission expects to spend £50 million on recreation, conservation and heritage in the three years 1995-98. The provision made by the Government for forest recreation varies according to local needs and opportunities. Through its system of 46 local Environment Councils, the Forestry Commission provides for local people to participate in the planning of its forests.

## 5.5 TOURISM

Objectives (EHAPE para 304)

* To ensure that the adequacy and safety of the drinking-water supply and situation facilities in resorts meet peak tourist demand. The disposal of solid and liquid waste needs to be tightly regulated, to protect beaches and shellfish beds.

* To strengthen food inspection and monitoring, particular with regard to *Campylobacter* and *Salmonella* during peak seasons, and take measures to ensure that the temporary staff hired to handle food are properly trained and that standards of personal and environmental cleanliness are observed as closely as elsewhere.

* To inform tourists immediately and objectively in the languages understood by most of them in the event of contamination of water and food or the outbreak of infectious disease, as well as in the case of water and beaches becoming unsuitable for bathing in areas they are or will be visiting.

* To strictly enforce the usual road traffic regulations in resort areas so as to reduce accidents, especially among children, to keep the quality of the air unimpaired and to prevent excessive noise.

### Basis for action

1. Tourism contributes some £33 billion annually to the UK economy, equivalent to 5% of Gross Domestic Product. As a major service sector employer (the industry employs 1.5 million people) it must comply with legislation on a range of issues including health and safety, food hygiene etc, designed to protect consumers and ensure environmental health standards.

2. The present infrastructure of services copes well and planned improvements that are in process of implementation such as those to water resources and distribution systems, and waste water treatment will enhance service capability.

### Action

3. No action is planned specific to tourism.

# 6. INTERNATIONAL ACTION

## 6.1 INTRODUCTION

1. This chapter corresponds to Volume 3 of the EHAPE, in which WHO/EURO sets out priorities for international action in a variety of fields. Volume 3 of the EHAPE, does not set out national objectives as, in general, actions in Volume 3 are addressed to the international organisations. Accordingly, this section of the UKEHAP describes those UK actions which are outside the normal scope of participation in international negotiation but are direct UK contributions to the WHO aims.

### International cooperation

2. The UK is committed to contributing, at the European level, to initiatives for the benefit of environment and health, under the auspices of WHO/EURO, the EU, the UNECE and others.

3. At the Helsinki Conference, the UK offered to host the Third European Conference on Environment and Health to be held in 1999. That offer has since been accepted formally by WHO/EURO.

4. The MRC are playing an important part in the European Science Foundation Initiative in Environment and Health Research following agreement at Helsinki for a regular programme of meetings between leading scientists and policy makers to produce a broad agenda of research priorities in Europe. The UK hosted the first meeting which took place at the Institute for Environment and Health at Leicester in May 1995.

5. The UK is also an active participant in a range of wider international initiatives relevant to environment and health.

### Principles and criteria

6. In the EHAPE, WHO/EURO defined principles and criteria for international actions which led to its choice of priority areas. to some of which the UK is making a particular contribution, as indicated by the headings in Section 6.2.

## 6.2 PRIORITY AREAS

### Support for development of action plans at country level

7. As mentioned in Chapter 1, para 7-10, the UK is a pilot country for the development of NEHAPs and the leader of the UK delegation was elected Chairman of the Pilot Project Steering Group, and later Chairman of the NEHAPS Task Force. As a member of the Task Force the UK has contributed extensively to the process.

## Common problems

### Improvement of environmental health management tools

*Environmental Health Services*

8. The UK has the infrastructure and systems for providing environmental health management. The UK assists international co-operation by exchange of information with other countries. By providing information on the UK system to other nations who have not achieved a satisfactory infrastructure, the UK helps those nations to achieve appropriate environmental health standards.

9. As well as its commitment to the European Community, central government maintains strong links and contacts at a wide international level. These include contacts at political and official levels with other central government departments, the WHO, Food and Agriculture Organization (FAO), Codex Alimentarius, International Standards Organization (ISO), European Standards Organization (CEN) and the European Electrical Standardisation Organization (CENELEC). The UK Government encourages Member States to visit on fact finding missions and provides information on the UK system. In addition the UK contributes to and promotes international exchange of personnel and health professionals through such schemes as the WHO professional officer exchange and Karolous programme.

*Professional education and training in environmental health*

10. Within the UK there are long established training institutions offering undergraduate and postgraduate qualifications for health professionals, which are overseen by the relevant professional bodies. The UK encourages exchange of information at all educational levels, from academic exchanges to joint study tours, to provide assistance to other member states in order to promote educational standards. The CIEH was a founding member of the International Federation of Environmental Health, which has a wide range of membership contributing to educational projects and improvement of environmental health. There are now 20 professional organizations who are full members of the International Federation and 20 associated bodies on all 5 continents. These associated bodies are a mixture of academic organizations, regional groups of EHOs and groups from different countries.

### Integration of environmental health policies into economic sector policies

11. Following the Rio Earth Summit in 1990, the UK has taken a positive line in integrating environmental concerns into decision-making at all levels. To this end it has published the following guides to ensure that policy-makers are aware of the appropriate framework for appraising policy:

- *Policy Appraisal and The Environment: A Guide for Government Departments.*[Ref 51]

- *Economic Appraisal in Central Government: A Technical Guide for Government Departments*[Ref 20]

- *Environmental Appraisal in Government Departments*[Ref 25]

- *A Guide to Risk Assessment and Risk Management for Environmental Protection*[Ref 37].

12. The UK has also undertaken work in response to the European Regulation EEC 93/793[Ref 76] on the evaluation and control of the risks associated with existing (hazardous) substances. Three official/industry working groups are producing guidance on:

- the risk assessment of existing substances;

- the technical options for risk management; and

- risk benefit analysis.

13. The DOE is also currently financing research into the applicability of a risk-benefit appraisal framework for the introduction of genetically modified organisms in such areas as environmental remediation and as a substitute for agrochemicals. The results of such projects are expected to be important in informing the EU negotiations in this area.

14. Work such as that described above informs the UK's contribution to international initiatives.

## Support to countries in transition

15. The UK is playing a full part in the implementation of the Environmental Action Programme (EAP) for Central and Eastern Europe. The EAP was adopted by the Environmental Ministerial Conference at Lucerne in 1993 as part of the UNECE's "Environment for Europe" process, and gives priority to developing realistic, efficient and cost-effective solutions to environmental problems which threaten human health in the region. It is based on a three-pronged approach encompassing policy reform, institutional capacity-building and investment, and, whilst it concentrates on short-term action, it ensures that this is consistent with the longer-term process of economic, social and environmental restructuring. Work on the EAP is guided by a Task Force, established at Lucerne, comprising representatives of donor and recipient governments, international organisations and financial institutions. The UK is supporting more than 100 projects of technical assistance in support of the EAP through the Environmental Know How Fund. UK assistance with health reform is also being provided under the Know How Fund.

European Environment and Health Committee

16. Since the Helsinki Conference, the UK has been nominated as a member of the WHO European Environmental Health Committee (EEHC) and the Government's Chief Medical Officer has been elected Chairman of that Committee for a period of two years.

## ABBREVIATIONS AND GLOSSARY

| | |
|---|---|
| AONB | Areas of Outstanding Natural Beauty |
| AQMA | Air Quality Management Area |
| AQS | Air quality standard |
| BATNEEC | Best available technique not entailing excessive cost |
| BPEO | Best practicable environmental option |
| BNFL | British Nuclear Fuels PLC |
| BS | British Standard |
| CCEE | Countries of central and eastern Europe |
| CIEH | Chartered Institute for Environmental Health |
| CIMAH | Control of Industrial Major Accident Hazards |
| CIPFA | Chartered Institute of Public Finance and Accountancy |
| CMO | Chief Medical Officer |
| COMARE | Committee on Medical Aspects of Radiation in the Development |
| DH | Department of Health |
| DOE | Department of the Environment |
| DPH | Director of Public Health |
| DTI | Department of Trade and Industry |
| DOT | Department of Transport |
| EAP | Environmental Action Programme |
| EC | European Commission |
| EDG | Employment Department Group |
| EEA | European Environment Agency |
| EEHC | European Environmental Health Committee |
| EHAPE | Environmental Health Action Plan for Europe |
| EHO | Environmental Health Officer |
| EIONET | European Information and Observation Network |
| EMAS | Eco-Management and Audit Scheme |
| EMF | Electromagnetic field |
| EHRI | Environmental Health Risk Indicators |
| EPAQS | Expert Panel on Air Quality Standards |
| ESAG | Environmental Statistics Advisory Group |
| EU | European Union |
| HAT | Housing Action Trust |
| HEA | Health Education Authority |
| HFA | Health for All |
| HMIP | Her Majesty's Inspectorate of Pollution |
| HMIPI | Her Majesty's Industrial Pollution Inspectorate |
| HMT | Her Majesty's Treasury |
| HON | Health of the Nation |
| HSC | Health and Safety Commission |
| HSE | Health and Safety Executive |
| IEH | Institute for Environment and Health |
| IPC | Integrated pollution control |
| IPPC | Integrated Pollution Prevention and Control |
| LAAPC | Local Authority Air Pollution Control |
| MAFF | Ministry of Agriculture, Fisheries and Food |
| MRC | Medical Research Council |
| NEHAP | National Environmental Health Action Plan |
| NHS | National Health Service |
| NIO | Northern Ireland Office |
| NIS | Newly independent states |
| NRA | National Rivers Authority |

| | |
|---|---|
| NRPB | National Radiological Protection Board |
| OECD | Organisation for Economic Cooperation and Development |
| OGDs | Other Government Departments |
| OHS | Occupational health services |
| OPCS | Office of Population, Censuses and Surveys |
| PAH | Polycyclic aromatic hydrocarbon |
| PCB | Polychlorinated biphenyl |
| PHCDS | Public Health Common Data Set |
| PHLS | Public Health Laboratory Service |
| R&D | Research and development |
| RCEP | Royal Commission on Environmental Pollution |
| RDC | Rural Development Commission |
| RPA | River Purification Authority |
| RSI | Rough Sleepers Initiative |
| SAHSU | Small Area Health Statistics Unit |
| SI | Statutory Instrument |
| SME | Small and medium size enterprises |
| SO | Scottish Office |
| SSSI | Site of Special Scientific Interest |
| UK | United Kingdom |
| UKAEA | UK Atomic Energy Authority |
| UKEHAP | United Kingdom Environmental Health Action Plan |
| UN | United Nations |
| UNCED | UN Conference on Environment and Development |
| UNECE | UN Economic Commission for Europe |
| VOC | Volatile organic compound |
| WCA | Waste collection authority |
| WDA | Waste disposal authority |
| WRA | Waste regulation authority |
| WHO | World Health Organisation |
| WHO/EURO | World Health Organisation European Region |
| WO | Welsh Office |

| | |
|---|---|
| Agency | The Environment Agency for England and Wales |
| Digest | The annual *Digest of Environmental Statistics*[Ref 17] |
| Helsinki Conference | The WHO/EURO Second European Conference on Environment and Health held at Helsinki in June 1994 |
| Release potential | A qualitative assessment of the likelihood that a particular process will give rise to a large release of polluting material: a combinatin of the scale of operation, inherent feed / product composition and operating practice. |

REFERENCES

General

1. *Air Pollution and Health: Understanding the Uncertainties.* MRC/IEH 1994. ISBN 1 899110 00 3.

2. *Air Quality: Meeting the Challenge.* DOE, 1995. A4954.

3. *Aquatic Environment Monitoring Reports.* Occasional reports. MAFF Directorate of Fisheries Research.

4. *Arrangements for Responding to Nuclear Emergencies.* HMSO. ISBN 0-7176-0828-X.

5. *An Assessment of Demands and Resources at 1994.* SO, 1995. ISBN 074 807480 5.

6. *Board Statement on Restrictions on Human Exposure to Static and Time Varying Electromagnetic Fields and radiation.* (Documents of the NRPB, volume 4, no 5, 1993).

7. *British Government Panel on Sustainable Development, "First Report, January 1995.* DOE, 1995. A5611.

8. *Code of Good Agricultural Practice for the Prevention of Environmental Pollution from Agricultural Activity.* SO, 1991.

9. *The Code of Good Agricultural Practice for the Protection of Water.* MAFF WOAD 1991.

10. *Code of Good Practice on Prevention of Environmental Pollution from Agricultural Activity.* SOAFD, HMSO.

11. *Code of Practice on Access to Government Information. (Open Government in the Department of the Environment.* DOE, 1994.

12. *Code of Practice on Food Hygiene Inspections (Code of Practice No. 9 Revised).*

13. *Code of Practice on Sludge Use in Agriculture.*

14. *Countryside Management: Water - Preventing Pollution by Nitrates.* DANI, 1994.

15. *Declaration on Environment and Health in Europe.* WHO/EURO, 1994.

16. Not used.

17. *Digest of Environmental Statistics, No 17, 1995.* HMSO ISBN 0 11 753104 9.

18. *Drinking Water 1993: a report by the Chief Inspector, Drinking Water Inspectorate*, DoE and Welsh Office, 1994.

19. *Drinking Water Quality in Scotland in 1993*, Scottish Office, 1994.

20. *Economic Appraisal in Central Government: A Technical Guide for Government Departments*. HM Treasury. HMSO, 1991. ISBN 0-11-560034-5.

21. *Effects of Environmental Noise on People at Home- BRE Information Paper 22/93*, Building Research Establishment. HMSO, 1993.

22. *Electromagnetic Fields and the Risk of Cancer.* Report of an Advisory Group on Non-Ionising Radiation: Documents of the NRPB Vol 3 (1992) No 1.

23. *Electromagnetic Fields and the Risk of Cancer*: Supplementary Report by the Advisory Group on Non-Ionising Radiation: Documents of the NRPB Vol 5 (1994) No 2.

24. *English House Condition Survey 1991.* 1993. ISBN 0 11 752880 3.

25. *Environmental Appraisal in Government Departments.* DOE, 1994. ISBN 0-11-752915-X.

26. *Environmental Digest for Wales No 8 1993.* WO, 1994. ISBN 0 75 040495 7.

27. *Environmental Health Action Plan for Europe.* WHO Regional Office for Europe, 1994.

28. *Environmental Responsibility: an Agenda for Further and Higher Education.* HMSO, 1993. ISBN 0 11 27 0820 X.

29. *Essentials of Health and Safety at Work.* HSE. ISBN 0-7176-0716-X.

30. Not used.

31. *Exposure to Radon in UK Dwellings, 1994.* Kendall, GM et al, NRPB. HMSO.

32. *Externalities from Landfill and Incineration.* HMSO, 1993. ISBN 0 11 752 825 0.

33. *Fertiliser Recommendations.* MAFF, 1994. RB209.

34. *5 Steps to Risk Assessment.* HSE, free leaflet, IND(G)163L,

35. *Five Steps to Successful Health and Safety Management.* HSE, free leaflet, IND (G) 132L.

36. *Food Safety (General Food Hygiene) Regulations 1995, SI No 1763.* ISBN 0 11 053227 9.

37. *A Guide to Risk Assessment and Risk Management for Environmental Protection.* DOE, 1995. HMSO. ISBN 0-11 753091-3.

38. *Health for all targets. The health policy for Europe.* WHO Regional Office for Europe, 1991. ISBN 92 890 1311 7.

39. *The Health of the Nation - A Strategy for Health in England, Cm 1986.* HMSO, 1992. ISBN 0 10 119862 0.

40. Not used.

41. *The Health of the Nation for Environmental Health.* The Institution of Environmental Health Officers, 1993. ISBN 0-900103-42-6.

42. *Healthy Environments.* Welsh Health Planning Forum, 1993. ISBN 0 7504 0549X.

43. *Learning for Life. A National Strategy for Environmental Education in Scotland.* SO, 1993. ISBN 07480 0707 5.

44. *Making Markets Work for the Environment.* HMSO, 1993. ISBN 0-11-752852-8.

45. *Meeting Challenges - The Housing Corporation's Priorities and Targets 1995-98.* Housing Corporation. ISBN 0 90 145458 3.

46. *The National Response Plan and Radioactive Incident Monitoring Network (RIMNET) Phase 2.* HMSO. ISBN 0-11-752788-2.

47. *The Noise climate Around Our Homes - BRE Information Paper 21/93.* Building Research Establishment. HMSO, 1993.

48. Not used.

49. *Our Future Homes - Opportunity, Choice, Responsibility.* HMSO, 1995. ISBN 0-11-129012-8.

50. Not used.

51. *Policy Appraisal and the Environment: A Guide for Government Departments.* DOE. HMSO, 1990. ISBN 0-11-752487-5.

52. *Radiation Exposure of the UK Population - 1993 Review.* Hughes, J S and O'Riordan, M C, NRPB. HMSO.

53. *Radon in Dwellings in Wales.* NRPB Memorandum, NRPB-M381, 1992.

54. *RCEP 12th Report: Best Practicable Environmental Option.* HMSO, 1988. ISBN 0 10 103102 5.

55. *Review of Health and Safety Regulations, Main Report.* HSC, 1994. ISBN 0-7176-0794-1.

56. *Review of Radioactive Waste Management Policy: Final Conclusions, Cm 2919.* HMSO, 1995. ISBN 0 10 129192 2.

57. *Review of Radioactive Waste Management Policy: Preliminary Conclusions.* DOE, 1994.

58. *The Scottish House Condition Survey 1991.* Scottish Homes, 1993.

59. *A Scottish Strategy for Environmental Education.* SO, 1995. Dd 84 33567.

60. Not used.

61. *Solving the Nitrate Problem - Progress in Research and Development.* MAFF, 1993.

62. *Statistical Bulletin Environment Monitor for Radioactivity in Scotland 1992.* SO, 1995. ISBN 0 7480 08160.

63. *The Steering Group on Chemical Aspects of Food Surveillance - Annual Report 1994. Food Surveillance Paper No. 45.* MAFF, 1995. HMSO. ISBN 0-11-242994-7.

64. *Successful Health and Safety Management.* HSE, HMSO 1991. ISBN 0-11-8859-88-9

65. *Sustainable Development - The UK Strategy, Cm 2426.* HMSO, 1994. ISBN 0-10-124262-X.

66. *Sustainable Forestry - The UK Programme, Cm 2429.* HMSO, 1994. ISBN 0-10-124292-1.

67. *Terrestrial Radioactivity Monitoring Programme (TRAMP). Annual reports.* MAFF.

68. *Transport: The Way Ahead* DOT, 1995.

69. *The UK Environment.* HMSO, 1992. ISBN 0 11 752420 4

70. Not used.

71. *Waste Strategy for England and Wales: Consultation Document.* DOE, 1995.

72. *Water: Nature's Precious Resource: An Environmentally Sustainable Water Resources Development Strategy for England and Wales.* NRA, 1994.

73. *Welsh House Condition Survey 1991.* 1994. ISBN 0 7 504103 X.

Cont'd

**EC Directives**

74. *Animal waste (90/667/EEC).*

75. Not used.

76. *Evaluation and control of the risks of existing substances. (93/793/EEC).*

77. *Freedom of access to information on the environment. (90/313/EEC).*

78. *Hygiene of foodstuffs (93/43/EEC).*

79. *Large Combustion Plant Directive (88/609/EEC).*

80. Not used.

81. *Legal provisions applicable to various substances in List 1 of annex to 76/464 (86/280/EEC).*

82. *Limit values and quality objectives for cadmium discharges (83/513/EEC).*

83. *Limit values and quality objectives for certain List I substances (90/415/EEC).*

84. *Limit values and quality objectives for discharges of hexachlorocyclohexane (in particular lindane) (84/491/EEC).*

85. *Limit values and quality objectives for hexachlorobenzene (HCB), hexachlorabutadiene (HCBD), chloroform, isodrin, endrin, dieldrin and aldrin discharges (88/347/EEC).*

86. *Limit values and quality objectives for mercury discharges by the chlor-alkali electrolysis industry (82/176/EEC).*

87. *Limit values and quality objectives for mercury discharges by sectors other than the chlor-alkali electrolysis industry (84/156/EEC).*

88. *Major accident hazards of certain industrial activities. [Seveso Directive] (82/501/EEC).*

89. *Packaging and packaging waste (94/62 /EEC).*

90. Not used.

91. *Pollution caused by certain dangerous substances discharged into the aquatic environment of the Community (76/464/EEC).*

92. *Proposal for a Council Directive concerning the quality of water intended for human consumption. (COM(94) 612 final). OJ No C 131, 30.5.95, pp.5.*

93. Not used.

94. *Protection of waters against pollution caused by nitrates from agricultural sources [Nitrates Directive] (91/676/EEC).*

95. *Quality of bathing water (76/160/EEC).*

96. *Quality of fresh waters for fish life [Freshwater Fish Directive] (78/659/EEC).*

97. *Quality of shellfish waters [Shellfish Waters Directive] (79/923/EEC).*

98. *Quality of water intended for human consumption [Drinking Water Directive] (80/778/EEC).*

99. *Standardising and rationalising reports on the implementation of certain Directives relating to the environment (91/692/EEC).*

100. *Urban waste water treatment (91/271/EEC).*

ANNEX 3

HEALTH FOR ALL TARGETS

Target 18: Policy on environment and health

By the year 2000, all Member States should have developed, and be implementing, policies on the environment and health that ensure ecologically sustainable development, effective prevention and control of environmental health risks and equitable access to healthy environments.

Target 19: Environmental health management

By the year 2000, there should be effective management systems and resources in all Member States for putting policies on environment and health into place.

Target 20: Water quality

By the year 2000, all people should have access to adequate supplies of safe drinking water and the pollution of groundwater sources, rivers, lakes and seas should no longer pose a threat to health.

Target 21: Air quality

By the year 2000, air quality in all countries should be improved to a point at which recognised air pollutants do not pose a threat to public health.

Target 22: Food quality and safety

By the year 2000, public health risks due to microorganisms or their toxins, to chemicals and to radioactivity in food should have been significantly reduced in all Member States.

Target 23: Waste management and soil pollution

By the year 2000, public health risks caused by solid and hazardous waste and soil pollution should be effectively controlled in all Member States.

Target 24: Human ecology and settlements

By the year 2000, cities, towns and rural communities throughout the Region should offer physical and social environments supportive to the health of their inhabitants.

Target 25: Health of people at work

By the year 2000, the health of workers in all Member States should be improved by making work environments more healthy, reducing work related disease and injury, and promoting the wellbeing of people at work.

Target 11: Accidents

By the year 2000, injury, disability and death arising from accidents should be reduced by at least 25%.

ANNEX 4

## THE UK PROCESS

1. This annex describes the process of Ministerial, administrative and public consultation by which this plan has been put together. As mentioned in paragraph 9 of "Background to the Report", it is provided at the request of WHO/EURO to assist other countries with less experience of developing such plans.

### Before public consultation

2. The DH is the normal lead department for dealings with WHO. In exercising this function, DH consults the other UK Health Departments. However, the measures to be taken in developing, and later implementing, the UKEHAP are expected to fall principally on the DOE and the other UK Environment Departments. Accordingly, the Secretary of State for Health wrote to the Secretary of State for the Environment proposing that the latter's Department took the lead in developing the UKEHAP: he agreed.

3. As a separate issue, the Secretary of State for the environment wrote to the Secretary of State for Health, with copies to other Ministers whose Departments would contribute to the development of the UKEHAP, proposing that the UK accede to WHO/EURO's request that the UK accept the role of a pilot country. Among the principal points made were:

i) being a pilot country would require the UK to develop its plan faster than would otherwise have been the case;

ii) the role would not impose additional burdens except to the extent of cooperating with other countries involved in the pilot process. The additional burden would fall on the Department of the Environment as the Department developing the plan; and

iii) as the host country to the 1999 Third European Conference on Environment and Health, it was incumbent on the UK to try to ensure a successful conference.

The proposal was agreed without dissent.

4. Once Ministers had agreed, a letter was sent from a senior official in DOE to colleagues in OGDs, including territorial departments with responsibility for health and the environment in their areas, and within DOE seeking contributions, having first set out the background and explained what was required. Administrative arrangements were made for an existing interdepartmental group of senior officials, the Inter-Departmental Group on Public Health, chaired by the CMO, to maintain oversight of progress.

5. A draft for public consultation was cleared first between officials of DOE and contributors, generally in bilateral discussions with contributors but including others if appropriate. The consultation process included the territorial departments to take account of their responsibilities for environment and health. Finally the document was cleared with Ministers by the Secretary of State for the Environment writing to colleagues seeking their agreement to publish the draft for public consultation.

**Launch arrangements and public consultation**

To be written for final document.

**Analysis of responses**

Dependent of outcome of consultation process: probable appendix listing principal responders

**The UK process: after consultation**

To follow in light of events; to include recension of plan.

**Launch of the final document**

To be written for final document.

## RESPONSIBILITY FOR ENVIRONMENTAL HEALTH

1. In England, the allocation between government departments and others of responsibility for the principal divisions of environmental health is:

**(1) Department of Health:**
(a) responsibility for public health;
(b) responsibility for the health effects of environmental issues covering the microbiological and toxicology of the environment;
(c) communicable disease control;
(d) health promotion;
(e) microbiological and toxicological safety aspects of food, water and the environment;
(f) provision of primary, secondary and tertiary health care services, ie the NHS and social services.

**(2) Department of the Environment**
(a) housing;
(b) waste management;
(c) environmental protection, including air and noise pollution;
(d) water;
(e) sewerage and sewage disposal;
(f) building regulations.
(g) occupational health and safety
(h) effect of work activities on general public

**(3) Department of Transport**
(a) Transport related pollution;
(b) Traffic accidents.

**(4) Home Office**
(a) byelaw approvals;
(b) licensing;
(c) administration of justice.

**(5) Ministry of Agriculture, Fisheries and Food**
(a) food composition, standards and labelling;
(b) animal health and welfare;
(c) food science and technological research;
(d) control of products of animal origin.
(e) safety evaluation of pesticides and veterinary products

**(6) Department of Trade and Industry**
(a) consumer protection

In **Northern Ireland:** items (5)(a) and (b) are dealt with by a number of Departments; item (5)(c) by the NIO; and item (6)(a) mainly by the Department of Health and Social Security. In **Scotland**, the Scottish Office has responsibilities which parallel most of those of the DH, DOE, DNH, HO and MAFF. In **Wales**, WO has environmental health responsibilities for agriculture, environment, health and transport.

2. The role of central government departments takes several forms. This includes

the formulation of policy, drafting and processing of legislation in relation to environmental health services;

provision of guidance on the legislation, and in some areas enforcement; and

the administration of the legislative provisions, including the coordination and consultation with local government through the mechanisms of the Local Authority Associations and those affected interested parties such as consumer associations, industry and the general public.

3. In certain areas central government has established monitoring arrangements over environmental health services at local level. Central government has established several executive agencies which directly provide environment and health-related services at local level. These include:

National Health Service Executive
National Health Service in Scotland Management Executive
National Rivers Authority
River Purification Boards in Scotland
Drinking Water Inspectorate
Health and Safety Executive
Medicines Control Agency
Her Majesty's Inspectorate of Pollution
Her Majesty's Industrial Pollution Inspectorate for Scotland
Social Services Inspectorate
Countryside Commission

Local Government Services

4. Within the United Kingdom there are currently 540 democratically elected local government units. Within these units the ultimate authority for policy and decision rests with the elected Council of each unit. The units in England are County Councils, London Boroughs, Metropolitan Districts, and District Councils. Within **Northern Ireland** there are 26 unitary district councils. Within **Scotland** there are 57 Regional, District and Island Councils. Within **Wales** there are Welsh County Councils and District Councils. A review of local government structure has just been completed in England, Scotland and Wales. This has resulted in the creation of unitary authorities across the whole of Scotland and Wales (effective from 1 April 1966). In England 38 new unitary authorities will be created although the existing structure will remain in most cases. Within England and Wales, gross expenditure on local government environmental health services was almost £350 million in 1989-90 (source CIPFA, 1989-90).

5. In general the environmental health service is located at Local Authority (community level). There is a general recognition in the UK that there are strong advantages in the core environmental health service operating at the community level where it is in close contact with the population it serves

and the environmental problems which it faces. The environmental health service covers the following broad areas:

local policy formulation
surveillance
provision of information/ publicity
investigation services
health education
enforcement.

6. Within this overall framework (except in Northern Ireland) services are provided in the following areas:

waste management / recycling of waste materials;
food safety;
housing;
epidemiological surveillance and evaluation;
air quality management;
occupational health and safety;
water resources management;
noise control;
protection of the recreational environment;
radiation health;
port health controls at air and seaports;
educational activities;
promotional enforcement of environmental health quality standards;
studies into the effect of environmental hazards;
environmental impact assessment;
planning;
refuse collection;
social services; and
pollution control.

7. The UK has officers with specialised training in environmental health who are recognised as constituting a specific professional group called Environmental Health Officers (EHO). The EHO is not only qualified at graduate level but must also have completed a period of compulsory practical training in the environmental health profession. EHOs are required to maintain their level of professional competency.

8. EHOs are mainly employed by the local authority at District Council level, although an increasing number of EHOs are employed by central government departments and industry. As professionally trained officers, EHOs are concerned with administration, inspection, education and regulation in respect of environmental health. They act as a public arbiter of environmental health standards, maintaining close contact with the community. They develop professional standards and applying them in environmental health. A vital functions is to maintain effective liaison with other professional officers who have a contribution to make in the promotion of environmental health in its widest sense.

9. An EHO within the public service should have the following basic functions:

(a) improving human health and protecting it from environmental hazards;

(b) enforcing environmental legislation;
(c) developing liaison between the inhabitants and the Local Authority, and between the local and higher levels of administration;
(d) acting independently to provide advice on environmental matters;
(e) initiating and implementing health education programmes to promote an understanding of environmental principles.

10. The other professionals with whom liaison is appropriate include physicians, microbiologists, public analysts, civil building and sanitary engineers, veterinarians, health and safety enforcement professionals, consumer protection officers, water engineers, scientists and staff of the pollution inspectorates.

11. A total of some 14,000 staff are employed in local authority environmental health services in England and Wales. As an example, in 1989-90 this figure included:

5,130 Environmental Health Officers,
2,020 Technical Assistants, and
520 Scientific Officers.

12. The combination of centrally derived legislation, with locally accountable, professionally qualified service providers, and adequate funds to take both a proactive and reactive approach to existing problems and developing problems, provide the framework for ensuring:

* provision of easy access to an assured supply of safe water for every home;
* control of microbiological and chemical contamination of food and water supplies;
* regular collection and safe disposal of waste;
* control of air pollution hot spots;
* prevention of accidents at work, on the road and in the home;
* land use planning and control, as a means of preventing exposure of communities to pollutants in air, soil and water; and
* development of plans for prevention of and response to natural disasters and major industrial and nuclear accidents.

13. In recognising and encouraging the role of local government in providing environmental health services that are flexibly adapted to the needs of local populations, and to establish appropriate inter-sectoral infrastructures and adequate financial provision at those levels, the UK government has published *The Health of the Nation for Environmental Health*[Ref 41].

## HOUSING FITNESS STANDARD AND HOUSING CONDITION

1. The **housing fitness standard** provides a statutorily enforceable set of minimum health and safety requirements deemed necessary for a dwelling to be fit for human habitation. These provide that a dwelling house should:

be free from serious disrepair;

be structurally stable;

be free from dampness prejudicial to the health of the occupants;

have adequate provision for heating, lighting and ventilation;

have an adequate supply of wholesome water and an effective system for the draining of foul waste and surface water;

have a suitably located WC, bath or shower and wash-hand basin; and

satisfactory facilities for the preparation and cooking of food.

In Scotland, the broadly similar position is the Tolerable Standard, which sets out the minimum requirements a dwelling must have to be classified as suitable for habitation.

2. A quinquennial survey of housing - the *English House Condition Survey*[Ref 24] - is undertaken and the findings published. The next survey will start in 1996. The survey provides the major source of information to assist Government in the development and monitoring of policies directed towards the repair and improvement of the housing stock. The first Scottish House Condition survey was undertaken in 1991 and the results published by Scottish Homes in 1993[Ref 58]. A second survey is planned for 1996.

3. Means tested house renovation grants help those most in need in private sector housing with essential repairs and improvements. In Scotland, the current grant system is different: a general reform is proposed but there is no indication yet of the legislative timetable.

## INVITATION TO COMMENT

The Secretaries of State's Foreword, and the Introduction to the Action Plan itself, describe the background to this initiative. They explain that the scope and format of the Action Plan is determined by that of the EHAPE and that the six pilot countries have agreed to adopt this consistent approach so as to provide a more helpful guide to other countries in considering their own action plans and to help to identify difficulties in the concept given the varying circumstances of different countries.

In the UK, there has been, and is, much activity already in the broad field of health of the environment and its relationship to the health of the people. Consequently, the Action Plan does not set out to present totally new initiatives. Rather, it aims to relate existing actions on the environment more closely to their public health implications and the broader public health concerns identified in 'The Health of the Nation'.

We hope that publication of the draft Action Plan will enable a wide range of those interested in environmental and public health to contribute to the consultation process and to the setting of the UK priorities which will result.

In particular, it would be helpful if correspondents would consider the following questions:

1 Does the draft strike the right note and emphases to meet its three main objectives, ie:

- to provide a suitable response to the commitment in the EHAPE?
- to provide a statement of the UK's commitment to action - at all levels - to promote public health through healthy environments?
- (as a pilot country) to provide a useful guide to help other countries to develop their own Action Plans?

2 How can the UKEHAP help to encourage public participation in healthy alliances - between government and non-governmental interests at all levels?

3 How can we best take forward - with interested parties at all levels in society - the commitments to action described in the Action Plan?

**Comments should be sent, *no later than 27 October 1995*, to**

***either:***
**Zeph Wekesa, Toxic Substances Division, Room A3.24, Department of the Environment, Romney House, 43 Marsham Street, London, SW1 3PY**

***or*** **:**
**Zubeda Seedat, Health Aspects of Environment and Food Division, Room 679D, Department of Health, Skipton House, 80 London Road, London, SE1 6LW**

**Please note that comments submitted will be made available for public scrutiny *unless* they are expressly identified as to be treated as confidential.**